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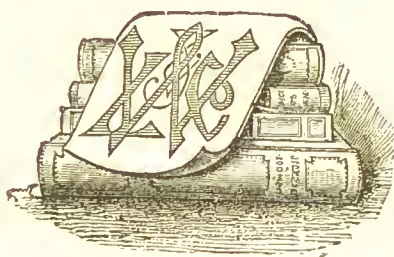
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PREFATORY NOTE.

THE writer has endeavored to make this Health Primer serve both as a guide for the preservation of the health of the skin, and as a popular dictionary or encyclopedia in matters pertaining to Dermatology.

He has therefore sought to introduce in its pages not only the medical terms used in reference to Diseases of the Skin, but also the popular names given, both those which are rightly and those which are wrongly applied. If, therefore, information be sought in reference to any particular matter, it will be well to consult first the index, which has been made particularly full.

It is hoped that this little book may be of much service in clearing up this vexed subject in the popular mind, and that by its means disease may be avoided, or, when present, that it may be recognized and proper aid sought for and applied.



CONTENTS.

CHAPTER I.

	PAGE
ANATOMY AND PHYSIOLOGY OF THE SKIN . . .	7

CHAPTER II.

THE CARE OF THE SKIN IN HEALTH . . .	34
--------------------------------------	----

CHAPTER III.

DISEASES OF THE SKIN	45
--------------------------------	----

CHAPTER IV.

DIET AND HYGIENE IN DISEASES OF THE SKIN .	134
--	-----

INDEX	143
-----------------	-----



THE SKIN

IN HEALTH AND DISEASE.

CHAPTER I.

ANATOMY AND PHYSIOLOGY OF THE SKIN.

THE object of the present little book is fourfold ; first, to correct certain popular prejudices in regard to the subject of diseases of the skin ; second, to give directions in regard to the care of the skin in health and for the prevention of disease ; third, to afford a certain amount of popular information as to the principal diseases which affect the skin, their recognition and home management ; and, lastly, to give directions whereby the patient may assist the practitioner in the cure of this class of diseases by his diet, hygiene, and mode of life, together with the manner he should himself treat the diseased portions.

These points will best be considered more or less conjointly ; and we will therefore divide our subject into two main parts, as indicated in the title. First, treating of the skin in health, its functions, and the care to be given it ; and, second, the diseases to which it is liable, their recognition and management. In order to properly understand what is to follow, a

brief exposition of the skin, in its physiology and anatomy, will be necessary.

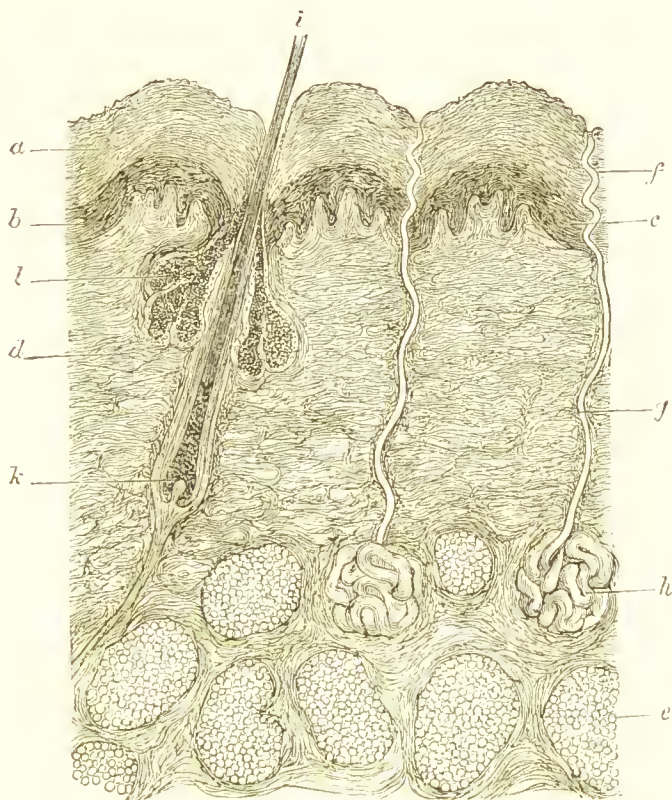
The skin is the largest single excretory organ of the body, and upon the proper performance of its functions depends, to a large degree, the health of the individual. The skin is generally spoken of as simply a covering for the rest of the body, an outer garment of tissue which serves to enclose and protect the parts within, to give symmetry, shape, and beauty to the human form. While it fulfils these ends in a marvellously perfect manner, it has functions which are peculiar to itself, and which it performs with as wonderfully satisfactory results as those executed by other organs of the body which receive more credit for their work.

To fulfil its many duties, the skin is composed of very many different elements, all united in a harmonious structure, and thus constituting one vast organ, which, by its constant repair from within, resists the many agencies which constantly tend to destroy its integrity. To appreciate this latter remark, let any one note the injuries done to a kid glove when exposed as in a fall, and compare with it the power of the human skin in resisting and repairing injuries.

The skin may be roughly divided into two general portions,—the deeper, called the *corium*, *cutis vera*, true skin, or *derma*, and the outer, cuticle, scarfskin, or *epidermis* (Greek, ἐπί, upon, and δερμα, skin). The inner, or deeper portion, which forms the largest mass of the skin, is composed of firm and elastic connective tissue-fibres, which interlace so as to form a structure resembling felt, which is extremely tough, and yet so elastic as to yield to every movement, and to regain its former position and state with a perfection which

could not be excelled. The extent of this suppleness can be best appreciated when the skin becomes altered by disease, as is not at all uncommon when, in certain

Fig. 1.



Section perpendicularly through the healthy Skin.

a, Epidermis, or scarfskin; *b*, Rete mucosum, or rete malpighii; *c*, Papillary layer; *d*, Derma, corium, or true skin; *e*, Panniculus adiposus, or fatty tissue; *f*, *g*, *h*, Sweat gland and duct; *i*, *k*, Hair, with its follicle and papilla; *l*, Sebaceous gland.

cases, it is what is called hide-bound, as in *scleroderma*, or when such an affection as *eczema* has so changed its state that every movement at an affected joint will cause deep and painful cracks or fissures.

At its under surface the meshes of the corium become larger and larger, until we reach what is called the *subcutaneous cellular tissue*, which is very loose, and connects the skin with the parts below; and it is this which permits so much motion. This subcutaneous cellular tissue, in some parts of the body, is filled with fat, and forms the *panniculus adiposus*; and it is here that most of the fat in corpulence is deposited. It is this tissue, also, which becomes filled with water in dropsy. The outer surface of the corium is not even and smooth, but is thrown into multitudes of elevations called *papillæ*, and this portion takes the name of *pars papillaris*, or papillary layer of the skin. These minute elevations, or papillæ, are exceedingly numerous, in some parts of the body there being as many as four hundred on every square line of the surface, that is, on each space a twelfth of an inch square.

It is this *corium*, *derma*, or true skin, which makes the mass of the leather used in commerce, where it is seen to vary from the most delicate kid to the coarse sole-leather, in which latter the separate fibres are readily seen with the naked eye. In this deeper skin are situated the organs of which we shall speak later, the sweat and sebaceous glands, the hairs, as also the nerves, blood-vessels, and absorbents or lymphatics of the skin.

The outer layer of the skin, the *epidermis*, cuticle, or scarfskin, is not composed at all of fibres, but, on the contrary, of separate roundish elements called cells. These, of course, cannot interlace, as do the

fibres of the corium, but are piled upon each other in layers to a varying extent in different parts of the body. Thus, upon the soles of the feet the epidermis may attain great thickness; also upon the palms, or wherever friction calls for more protection of the soft parts beneath; whereas on the face this layer is very thin.

The *epidermis*, outer, or scarfskin, is also divided into two portions,—the outer, in which the scales are all flat, hard, horny, and lifeless, only waiting to be thrown off or removed by friction, and a deeper portion, in which the cells are round or many-sided, are soft and moist, are in fact growing and developing to replace those removed externally. This deeper, moist, or succulent part, which dips down between all the *papillæ* of the corium, has received the name of *rete mucosum*, or *rete malpighii*, from the name of the anatomist Malpighi, who first described it. It is this epidermal layer which is removed by a blister, and which is frequently rubbed off in slight accidents, when the surface beneath feels raw and oozes a little clear liquid, or possibly a little blood. As long as accident or disease destroys only this outer *epidermal* layer, no scar is produced; but when in any way the *corium*, or true skin, is destroyed, a scar or cicatrix results, varying in severity according to the depth of the destruction. Thus, many slight burns remove the epidermis only; whereas, those which are followed by any loss of skin, or ulceration, will leave scars which may prove very unsightly.

It is this *epidermis* which forms the covering of many eruptions on the skin, as in the water-blisters of “cold-sores,” “shingles,” and chicken-pox. It is also raised in little *vesicles*, or water-blisters, in

eczema; and later in this disease the epidermis is largely removed, and we have a surface which is raw and weeping, but one which, however sore, always heals without a scar, because only the epidermal layer is destroyed. Many skin diseases affect this outer layer alone—as some of the parasitic diseases, those due to derangements of color, etc.; while many others are located in the true skin, or derma; of these latter, some are destructive, and leave scars; others are entirely removable by absorption, and leave no traces of their existence.

The color of the skin depends upon this outer or epidermal layer. If it were entirely removed, the surface would be of almost a blood-red color, owing to the abundant blood-vessels found everywhere in the corium. Where the epidermis is thickest, as upon the palms and soles, we lose almost entirely the red, and have a yellowish-gray tint; where it is thinner, we have the well-known pinkish flesh-color, and when a part becomes unusually flushed with blood, as in inflammation, and also in blushing, the red color predominates, the filled blood-vessels showing through the epidermis.

In the negro, the dark hue of the skin is due to the presence of a pigment, or coloring matter, in the lower layers of cells of the *epidermis*, that is, in the *rete mucosum*, the part directly above the papillæ of the true skin. The corium, or true skin, which is made up of fibres, does not share at all in this pigmentation.

When there are discolored marks on the skin, as in freckles, moth-patches on the face, etc., the color deposit takes place in this deeper layer of the epidermis; hence, they are very difficult of removal, because, in order to take away all the coloring matter at once,

this portion of the skin would have to be removed down to the papillæ, as in the case of a blister. Now, this is painful and troublesome; and, moreover, experience shows that it would be useless to blister off such deformities, because we not unfrequently see blisters on different portions of the body actually followed by staining of the skin, where no such staining existed previously. We can, however, not unfrequently, by proper stimulants, induce an absorption of the pigment, or produce rapid change in the skin, when the new-formed cells will not have the color.

Returning now to the corium, or true skin, we find in it a number of elements which should be understood.

The blood supply to the skin is very abundant, as may be judged from the fact that even a fine needle cannot be introduced into it without drawing blood from some capillary or delicate blood-vessel. At the upper or outer portion of the corium the blood-vessels, or arteries, which have become exceedingly fine and delicate (and are called *capillaries*, from the Latin *capillus*, a hair, so very minute are they), rise into each one of the many *papillæ*, or elevations of the papillary layer, and doubling upon themselves they descend again, and become veins, and finally enter into the larger veins, whereby the blood is carried again to the heart and the lungs to be purified. The outer or epidermal layer contains no blood-vessels, its cells are nourished indirectly from the portions beneath. Hence, we do not draw blood by a blister, or when the skin is lightly scraped or rubbed off; it is only when we reach the deeper layer, or corium, and wound it, that we obtain blood.

The nerves of the skin are a very important ele-

ment, and the abundance of their distribution may be also judged from the pain caused by the entrance of a pin, or even the penetration of the minute sting of an insect. This very abundant nerve supply of the skin, which is undoubtedly for the purpose of protecting us against injury, is accomplished by the most delicate division and distribution of the nerves, until their extremities are lost among the deeper cells of the epidermis. It is exceedingly difficult to trace these nerve-fibres, and this has only been accomplished quite recently by means of staining the sections of the skin with chloride of gold. This kind of nerve gives ordinary sensation of pain, heat, and cold, etc.; but there is a somewhat different class or arrangement of nerves, whose function is to preside over the special sense of touch. These end differently; they enter the *papillæ* of the corium, and appear to be wound up into a little knot. These little knot-like bodies are called *tactile corpuscles*, because the sense of touch is supposed to reside in them. They are always found on the palmar ends of the fingers, and are most numerous there, but are present to a lesser degree over most of the surface. They are found in about one out of every four *papillæ*.

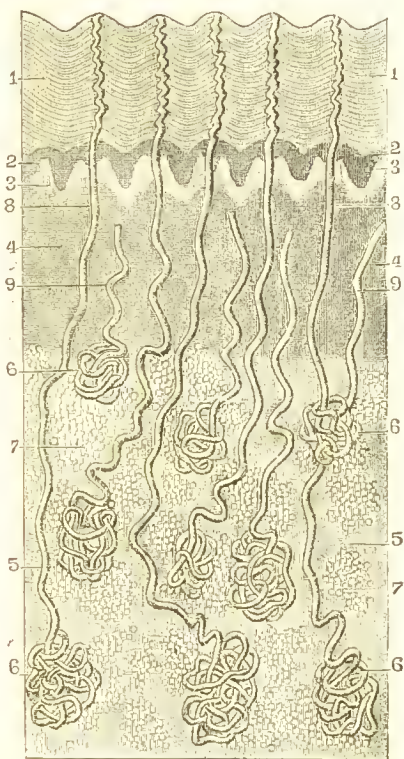
There are two varieties of glands contained in the skin,—the one for the secretion of sweat, called the *sudoriparous*, or sweat glands, and the other for the secretion of an oily or greasy substance called *sebum*, these latter glands receiving the name of *sebaceous* or *sebiparous* glands.

The sweat glands are in the form of minute tubes of about $\frac{1}{400}$ of an inch in diameter, which are twisted into coils at the very deepest portion of the corium, or true skin, or even in the subcutaneous tissue, and

then extend through the entire thickness of the skin, and open on the surface; as the tube or duct passes through the epidermis, it makes a number of spiral turns, like a corkscrew. The openings of the sweat glands are arranged somewhat regularly, and may be seen with a magnifying-glass, especially on the palms of the hands, in rows between the slightly elevated ridges of the skin. (See Fig. 3.)

These glands are very numerous in some parts; on the sole of the foot and palm of the hand there being about 2700 in each square inch, while on the cheeks there are but about 550 in the same space, and on the forehead about 1250. According to careful computation, the total number of sweat glands in the body amounts to almost 2,400,000; and as each little gland,

Fig. 2.

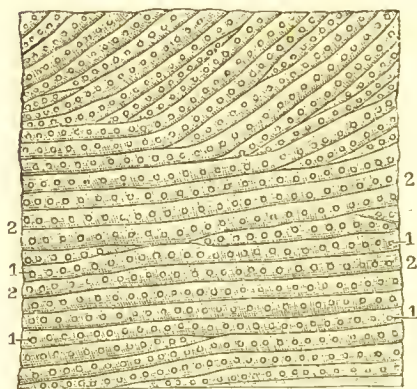


Sweat Glands from the Palm of the Hand. Magnified twenty times.

1. Horny layer of epidermis. 2. Rete mucosum. 3. Papillary layer. 4. Dermis, or true skin. 5. Subcutaneous cellular tissue. 6, 8, 9. Sudoriparous or sweat glands.

when its coil is unravelled, would measure about $\frac{1}{15}$ of an inch, their entire length amounts to not less than 153,000 inches, or about two and a half miles.

We can readily understand, therefore, the very great importance of the skin as a secretory organ, when we consider the vast surface thus presented; and direct experiments fully confirm the judgment thus formed.



Openings of the Sweat Glands on the Palm of the Hand. Magnified four times.

1. Openings of glands. 2. Furrows between the lines of openings.

heated, as by exercise or otherwise, does the perspiration manifest itself to the eye or touch. The total quantity of fluid thus given off by the skin is subject to the greatest variations, according to temperature, moisture, exercise, quantity and quality of food and drink taken, etc. In the average person in health, however, careful experimenters agree in placing the amount at about two pounds, or pints, daily, a quantity almost equal to that excreted by the kidneys.

The office of this cutaneous perspiration is largely

The action of these minute glands is not intermittent, but continuous; and during the entire time sweat is exhaled in the form of vapor, or *insensible perspiration*; and only when the body becomes much

to regulate the temperature of the body by the evaporation from the surface ; the cooling effect of fanning results from the evaporation of the moisture on the skin. The more violent efforts of the skin to reduce temperature are seen naturally in warm weather, or artificially in the Russian, or Turkish hot-air bath, when, as the body becomes more and more heated, the glands secrete more and more profusely. All know that if one sweating profusely gets in a draught of air, great cooling will result.

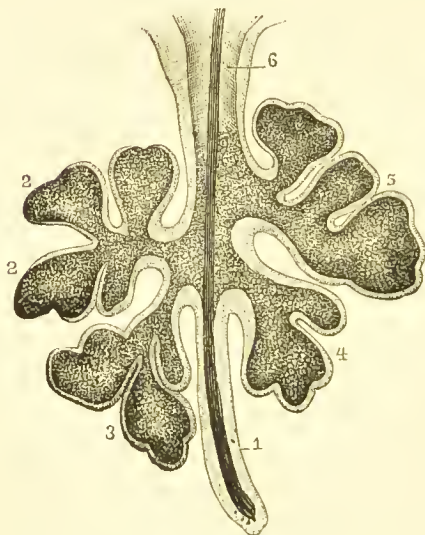
It can be readily understood how, with this vast secreting surface exposed to the changes of the atmosphere, we can readily "catch cold" from chilling the surface in a draught, or from exposure too thinly clad, and by a "check of perspiration" cause congestion of internal organs. When animals are completely covered with an impermeable coating, as by varnishing the surface, death always takes place ; and the story is current among physiologists, that a child who was covered with gold-leaf, in order to represent an angel in the ceremonies attending the coronation of Pope Leo X., died a few hours after the coating had been applied. The importance, therefore, of the proper care of the skin can hardly be over-estimated, that these many pores through which this vast amount of fluid passes out of the system may not be clogged. Proper bathing and friction are all-essential elements of a healthy skin, and a perfectly active skin means a great deal towards a perfectly active general system.

Besides the sudiparous or sweat glands, we have another glandular apparatus, situated in the skin, which is of especial importance, particularly as one of the most common and annoying of skin diseases, acne,

has its seat in them; these are the *sebaceous* or *sebiparous* glands.

While the sweat glands are composed of a single tube coiled upon itself at its lower extremity, which is situated in the very deepest portions of the skin, the

Fig. 4.



Large Sebaceous Gland. Greatly magnified.

1. Hair in its follicle. 2, 3, 4, 5. Lobules of the gland. 6. Excretory duct traversed by the hair.

sebaceous glands are rarely, if ever, formed of a single tube, but have a duct, more or less straight, with a mass of glands grouped about its deeper end, forming what is known as a *racemose* gland, from the resemblance to a cluster of grapes (Latin, *racemus*). The sebaceous glands are almost invariably connected with the hairs; upon hairy parts, as the scalp, they form appendages at the sides of the hairs, and their ducts open into the hair follicles. Generally, there are two to each hair, situated opposite each other; but in some situations large hairs have a number, even from four to eight, situated around them, forming a sort of collar about the hair. In some situations, on the other hand, as on the

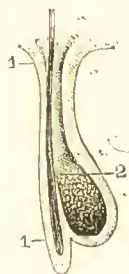
smooth face, nose, forehead, etc., the hairs are very small and rudimentary, while the sebaceous glands are large, and the hair there appears as an appendage at the side of the comparatively large gland. Very few of the glands open directly on the skin without a connection with a hair, although this latter may sometimes be so small as to escape ordinary observation.

These sebaceous glands are very minute affairs, having a diameter from one one-hundred-and-twentieth up to one-twelfth of an inch, as in some on the nose and elsewhere. They are also short compared to the sweat glands.

The secretion from these glands is of an oily nature, and, when in a healthy condition, is perfectly fluid at the temperature of the body. The quantity is not very great, and the main function of the secretion appears to be to keep the skin in a flexible state, though the amount of solid matter thrown off thus must be of some importance in the economy.

When there is disorder of these glands, we have, as mentioned before, *acne*, and also one of the various forms of dandruff, or *seborrhœa*, and *comedo*, or what are popularly known as flesh-worms, etc. Under certain circumstances they fail to act, more or less, and we have a hard, dry skin, *xeroderma*. In the proper care of the skin, the oily products of these glands, which adhere to it with the dead epidermal matter, are removed continually; whereas, neglect allows all

Fig. 5.



Sebaceous Gland, with a small hair attached. Greatly magnified.

1. Hair. 2. Sebaceous gland.

this to accumulate, the openings of the sebaceous, as well as those of the sweat, glands are clogged, work is thrown on other organs of the body, and slow disease is engendered.

In this connection may be mentioned an element in the anatomy of the skin which was omitted, in the previous general consideration of the subject, for reasons which will presently appear, namely, the *muscles of the skin*. In certain animals a very abundant muscular layer is developed immediately beneath the skin, so that they possess the power of wrinkling it and shaking it, in order to rid themselves of dust, insects, etc. In man this is found only in a few situations and moderately developed; but the human skin possesses within its structure a certain amount of muscular fibres, which are of especial importance in the present study of the sebaceous glands.

These muscles in the skin belong to the class of what is called smooth, or unstriped, muscles, which differ from those composing the mass of muscles of the limbs, etc., in that they are not controlled by the will; they are, therefore, called involuntary muscular fibres. These are, of course, extremely small, but are quite readily seen by the microscope. They extend from near the end, or deeper portion, of each hair-follicle, in a slanting direction, and terminate, or are inserted, near the outer surface of the corium or true skin. The name given to these muscles is *arrector pili*, or, in the plural, *arrectores pilorum*, so called because, when they contract, they cause the hair to stand more or less erect and to protrude a little from the skin; thus, in the cat, when excited or enraged, all the hairs become

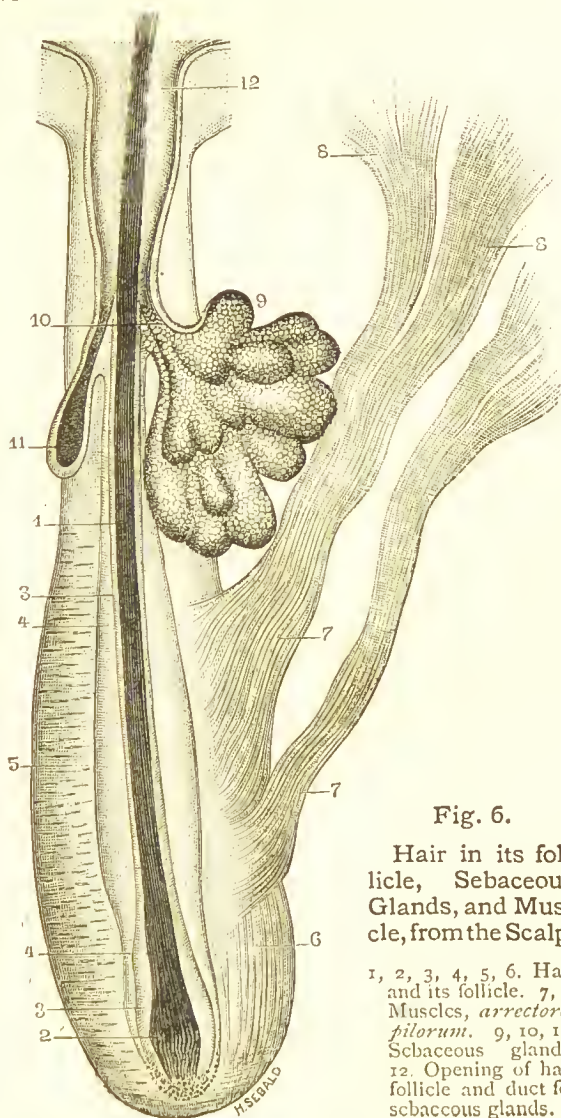


Fig. 6.

Hair in its follicle, Sebaceous Glands, and Muscle, from the Scalp.

1, 2, 3, 4, 5, 6. Hair and its follicle. 7, 8. Muscles, *arrectores pilorum*. 9, 10, 11. Sebaceous glands. 12. Opening of hair follicle and duct for sebaceous glands.

erect and bristling. The action of these muscles may be well observed in man in what is called "goose-skin," when, from exposure to cold, or sometimes from emotional causes, the skin may be observed to be thrown into numerous projections. This condition may be readily observed on entering a warm bath: if the portion not immersed gets a little chilled, and if the surface be yet dry, the fine hair on the arm may be seen to rise and stand more or less erect, and, as the condition subsides, the mass of hairs sink to their former position all together. This may be repeated several times, all rising and falling together, like a field of grain under the wind. It was to this action that Shakespeare referred in the utterance of the ghost to Hamlet, in the lines:

I could a tale unfold, whose lightest word
 Would harrow up thy soul; freeze thy young blood;
 Make thy two eyes, like stars, start from their spheres;
 Thy knotted and combined locks to part,
 And each particular hair to stand on end,
 Like quills upon the fretful porcupine.

But these muscles have another action which is very important, and that is the emptying of the sebaceous glands. These latter structures have no muscular coat of their own, and their secretion, which is constant, oozes out upon the surface. Now, where there are large hairs, as upon the scalp and beard, these muscles more or less embrace the sebaceous glands, and by their contraction they empty them from time to time, and by this means prevent an accumulation or prevent the openings from becoming clogged.

On the face, back, and chest, however, where we have *acne* developing, and where these glands are apt

to become plugged up with the black specks so often seen, these muscles are almost entirely absent, and the secretion, having no particular expulsive force, readily becomes impacted, and, if at all hard, fails entirely of gaining exit.

Another reason of the presence of acne on the face is the anatomical fact that, over most of the surface of the body, the sebaceous glands are connected with hairs of some size, and their ducts open into the follicles of these latter, and their hairs, by their continual growth, keep the orifices of the glands free; whereas on the smooth part of the face (nose, forehead, cheeks), also on the neck and chest, the hairs are insignificant, and cannot thus assist in the outflow of the sebaceous secretion, and often even act as impediments by themselves blocking up the openings.

The hairs and nails are simply portions of the epidermis, or outer layer of the skin, altered in shape and structure to fulfil the ends assigned them. But the hairs are situated much more deeply than one might infer from this statement, and the longest and largest of them reach down through the entire thickness of the true skin or derma; though the finest, downy hairs, called *lanugo*, are very superficially inserted.

Almost the entire surface of the body is provided with hairs of some sort, with a few exceptions, as the palms of the hands and the soles of the feet, etc., though over some portions of surface they are so fine as to be hardly discernible with the naked eye. Each hair is divisible into two portions, the root and the free extremity. The root is somewhat pear-shaped, that is, is a trifle larger below than at the surface of the skin, and its tissue is much softer than the exposed portion of the hair; it is indeed succulent, in the act

of growing. At the deepest portion of the hair-follicle, or cavity in which the hair rests, there is a certain anatomical structure which is of the greatest importance in reference to the growth and vitality of the hair, namely, the *hair papilla*. This is, of course, quite distinct from the *papillæ*, which we have seen to cover the surface of the corium or true skin; it is situated deep in the tissues, at the bottom of each hair-follicle and projects into a small cavity at the lower end of the hair. This little hair papilla, which is only one-fifteenth of a line, or one one-hundred-and-eightieth of an inch long, is of vital importance to the life of the hair, as from it the materials come for the growth of the hair, there being a minute blood-vessel in its interior; and it is believed that the reproduction of the hair, after it is lost from any reason, takes place from this papilla. Conversely is it also true that, as long as this papilla is intact and in a healthy state, the hair will be reproduced, even though extracted artificially. Thus, "plucking the hair out by the root" does not destroy the life of the follicle; only the hair is removed, the papilla from which it regrows remains.

This explains the reason why so many of the methods for the removal of superfluous hair, especially from the faces of ladies, are generally useless, or worse than useless. If they are pulled out with the tweezers, there is a still greater stimulus given, and the hairs return yet more coarse and obtrusive. Shaving with the razor but removes the portions external to the skin, and at the same time stimulates greater growth.

Numerous remedies have been brought forward from time to time for the removal of these obnoxious hairs, (this hairy state is known medically as *hirsuties* or

hypertrichosis,) and the name by which they are known, *depilatories*, would indicate that they are capable of accomplishing the desired end of removal of the hair. A moment's consideration, however, will show the uselessness of the hope, which experience has also demonstrated to the writer time and time again. The directions given with these preparations are that they should be moistened with water, spread over the part and left on a few moments, or until they cause a little burning, when the surface is to be scraped with a blunt instrument, as a paper-cutter, and the hair will be found to come off with the paste.

But what has been accomplished? Simply this: the remedies which form the powder are found to be such as have the power of dissolving the hair to a greater or less degree, such as lime, baryta, etc., and after this has been done, the mass is scraped off with a dull instrument, instead of a razor, simply because the paste has softened the hairs more than soap softens the hairs in shaving. But the destruction has not reached deeper: the solvent may have penetrated a little further than would be removed in shaving, but it has not reached down and arrested the hair-producing power; and it *cannot*. Therefore the idea of permanently removing these deformities by this means is a delusion and a snare.

The only method of really permanently removing superfluous hair is one which, in a measure, resembles that in which this is sometimes accomplished by disease, namely, by means of something capable of destroying the life and vitality of the hair papilla itself. This is accomplished artificially only by the treatment of each individual hair-follicle in its interior; and this may be done by the physician in one or two ways. I

have on several occasions seen ladies who had attempted this destruction of the papilla by means of a heated needle introduced into the follicle, and the attempt had been followed by the production of small, black, indelible stains, like a tattoo, at the point experimented upon. This was caused by the introduction of a little carbon or lamp-black, which had been deposited on the needle by the flame, deep under the skin, where it will remain during life. This same event has been recorded by others.

Superfluous hairs can be removed either by the introduction of an irregularly shaped needle into the follicle (after the extraction of the hair), which is then twisted so as to break up the papilla and produce a little inflammation which closes the follicle, or a needle can be inserted, and a current from a battery be turned on, when the follicle is destroyed by what is known as electrolysis. These procedures could be done only by a physician.

The hairs of the various portions of the body seem to have a definite or normal length, on reaching which they are shed, to be replaced over and over again. The number of hairs on a part, and capable of being produced upon it, exceed by far any estimate which could be prejudged in regard to it. In the case of a little girl with favus, a contagious disease of the scalp, caused by a vegetable parasite, my assistant extracted by count, in the course of several months, not less than 70,000 hairs from some diseased patches on the front part of the scalp, covering certainly not one-third of the entire hairy surface. In another case, of a gentleman with ringworm of the beard of the cheeks, he himself extracted at various times within a few months between 40,000 and 50,000 hairs. In both

these instances the hairs were undoubtedly reproduced and extracted several times. In both cases there was ultimately a good growth of healthy hair on the parts treated. Mr. Wilson has made and collected some interesting observations on the subject of the hairs.

On the scalp of a man twenty-five years of age, Mr. Wilson counted seven hundred and forty-four hair-pores in the square inch. If each gave exit to but one hair, the entire number on a scalp which measures about one hundred and twenty superficial square inches would amount, in round numbers, to 90,000; but as many openings give exit to two or more hairs, he estimates the total number on an average head of hair at about 120,000. Flaxen hair is much more abundant than that of darker shades.

Hairs vary very greatly on the different parts of the body both as to length and size, from the finest *lanugo*, or short, downy hair on the face, to the long hair of woman. Wilson mentions a lady whose longest hairs measured seventy-five inches, she standing five feet five inches in height, her hair being then nearly a foot longer than her height. The beard has also been known to attain great length; and the story is told, on good authority, of a carpenter whose beard measured nine feet in length, he carrying it in a bag when at work; also of another individual, a burgo-master in Holland, whose beard was so long that he was obliged to fold it up when moving about, and, having failed to do so on one occasion, he trod on it while ascending a staircase, and was thereby thrown down and killed.

It has been estimated that a man, by shaving the beard, removes between six and seven inches in the course of the year; so that a man eighty years of age

will have removed not less than twenty-seven feet of beard during his life.

In regard to the size or diameter of the hair, it is by no means uniform. Few, if any, hairs are ever round. Wilson has measured a large number of hairs, and found the diameters to vary from $\frac{1}{1500}$ to $\frac{1}{140}$ of an inch. The common diameter of the average hair is about $\frac{1}{450}$ of an inch, that is, four hundred and fifty laid side by side would form a band an inch wide. Darker hair is more apt to be coarse than that which is lighter, though black hair is sometimes exceedingly fine and silky. Wilson states that his examinations show that the coarsest hair was found in females and the finest in males; and in children the diameter of the hairs is still finer.

The strength of the hair is much greater than one would suppose. A single hair has supported a weight of 1150 grains, or nearly two ounces and a half, though the breaking weight is generally somewhat less than this.

Hair is also very elastic; it can be stretched to almost one-third its own length, and regains its former length almost perfectly.

The nails are structures which are very nearly like the epidermis and the hair, composed of a hard, horny matter arranged in the form of cells. They are, indeed, only altered portions of the external or epidermal layer of the skin, and rest upon their nail-beds in much the same manner as the epidermis or scarfskin lies on the true skin or derma. We speak of the *root* and the *body* of the nail,—the root being that portion towards the hand which is situated beneath the skin, the body all the rest of the nail. The *matrix* is the bed upon which the nail rests and to which

it is firmly adherent. Nails grow from the root, just as do the hairs, and only slide over their matrix or bed, so that an injury to the matrix, such as slivers beneath the nail, or run-arounds, or even a bad bruise, need not cause a disfigured nail other than of the portion directly injured; whereas, injury or disease of its *root* will generally cause a distorted and disfigured nail. I have seen a bruise of the root, and in one instance the sting of a bee over the root of the nail, followed by an irregularly formed nail, which lasted for a long time. Thus also eczema attacking the hand may affect the ends of the fingers, or even the sides at the ends, and the nails remain perfect; but when it is located on the back of the fingers, and involves the roots of the nails, the latter rarely if ever escape distortion and malgrowth.

The nails seldom fail to give indication of sickness which has been at all severe, by an arrest of development which has taken place in the root at the period of sickness. Some studies have been made in this direction which may not prove uninteresting or without value in the present connection, which we will quote from Mr. Wilson. A French physician, Dr. Beau, has observed that the nails of the feet are four times slower in their growth than those of the hands. The latter increase in length one millimetre, that is, two-fifths of a line, or $\frac{1}{30}$ of an inch, in one week, while the nails of the toes require four weeks for the same amount of increase. According to him, the length of the thumb-nail, including the root which is hidden from sight, is eight lines, that is, twenty millimetres; consequently, the period occupied in the growth of that nail would be twenty weeks, or five months. In like manner, the nail of the great toe,

measuring in length nine lines and a half, or twenty-four millimetres, and requiring four times the period of the thumb-nail, would consume ninety-six weeks, or nearly two years, in its growth.

Dr. Beau has further remarked that during the continuance of every constitutional disorder the nails suffer to a greater or less degree. The portion of nail formed during the existence of an illness will be perceptibly thinner than that produced during health, and may be distinguished as a transverse groove. If the disease is serious, the groove will be proportionately deep. By this means the disease is traced with certainty within the length of time required for the nail to completely renew itself. Thus, a transverse groove, situated eight millimetres (one-third of an inch) from the edge of the skin at the root of the thumb-nail, and two millimetres broad, would be calculated as follows: The nail projects three millimetres, or a little over a tenth of an inch, beneath the skin at its base; this, then, would take three weeks, representing three millimetres, for the change to show itself externally, and this added to the eight millimetres would make eleven millimetres, or, at the growth of one millimetre a week, would place the sickness eleven weeks previously, while the breadth of the furrow across the nail, two millimetres, would represent two weeks' sickness. Mr. Wilson made an observation somewhat confirmative of this, although in such delicate measurements there was some little discrepancy between his results and those of Dr. Beau. In the main, however, the observations are correct, and have been verified by others.

The nails also show peculiar characteristics in other states than acute sickness. Thus, in pulmonary con-

sumption they are generally long, and curved both from side to side and from end to end ; whereas, in certain other states, they are apt to be short, straight, and rather clubbed. They are subject to certain diseases, as will be mentioned later.

In regard to what might be properly called the *physiology of the skin*, a few additional points may be considered with advantage. As stated before in connection with the sudoriparous or sweat glands, the skin is one of the great *emunctory* or excreting organs of the body, and shares very largely with the lungs and kidneys the office of removing the superfluous waste from the system. Thus the skin removes by exhalation somewhere about two pints of liquid daily, the kidneys about the same amount, and the lungs not much over one-half or two-thirds as much. It can therefore be readily understood how a "check of perspiration" acts disadvantageously, by throwing extra work upon other organs. These three great agents for eliminating or removing the water from the system act in harmony, and interchange in their duties more or less. Thus, in cold weather, when the skin perspires less, the kidneys are more active, and their secretion, as also that of the lungs, is more profuse ; hence the great danger of their becoming inflamed during this season ; and in summer, when the perspiration may be profuse, it is a common observation to find the urine more scanty.

This *vicarious* or interchanging action of these organs is frequently taken advantage of in medicine, as when, in such maladies as Bright's disease of the kidneys, the quantity of their secretion is diminished, we cause the skin to act profusely and remove the water which threatens dropsy and endangers life. In

like manner, in certain diseases of the skin, we find great advantage from giving remedies which increase the secretion from the kidneys. Also in pneumonia, where the power for work of the lungs is seriously impaired, we keep the skin in good action by poultices, warmth, ipecac, spirits of Mindererus, etc. In some general diseases we act upon all these means of elimination; and the courses of treatment at the various mineral springs derive a large share of their benefit from their action upon the skin and kidneys.

The secretion from the sweat glands is almost entirely pure water, there being no less than 995.57 parts of water in each 1000 parts of the perspiration, and the largest other ingredient by far is common salt or chloride of sodium. But under certain circumstances, as in high fever, severe disease of the kidneys, and in gout, the perspiration may contain urea, a poisonous substance which in health is largely removed by the kidneys.

A very great part which the skin plays in the physiology of the system, as stated before, is that of regulating the temperature of the body. Thus, while certain organs situated internally, mainly the liver and the lungs, together with the tissues generally, are day by day, hour by hour, and minute by minute producing heat by means of the *oxidation* or combustion of the elements of food and tissue into substance and force (just as the same food elements if *burned* or *oxidized* outside of the body would give forth heat), the skin is continually radiating or giving off the heat; and by the proper balance of the two the temperature of the body is always kept at an even point — about 99° Fah. As the traveller approaches the colder Arctic regions, instinct leads him to consume more of

the fatty, carbonaceous, or heat-producing foods, and his feelings prompt him to clothe the surface more warmly in furs, etc., to keep in the heat which he is continually making, and which is necessary to his life.

Just as lives are lost from alcoholic liquor used as a stimulant in the Arctic regions in place of the heat-producing oils, so, by wilful neglect to preserve the heat which is produced, even in more temperate climes, we have many lives lost every year. But very good directions in regard to the protection of the skin have already been given in one of the preceding books of this series, and need not be repeated here.*

The intimate relations of all the organs of the body to each other must never be forgotten. Failure in action of the kidneys, bowels, lungs, liver, etc., deranges the balance in the system, and may result in disease of another organ, which has work thrown upon it which it cannot perform. Just as, when the stomach fails to do its work rightly, the bowels cannot do theirs, and diarrhoea results, so when the liver and organs of digestion fail to elaborate perfect blood, the skin becomes diseased, perhaps in trying to produce its secretions from imperfectly elaborated blood, or from attempting to take its nourishment from food which has been imperfectly cooked in the human laboratory. Again, a failure of the skin to do its work (and many skins are found to be dry and harsh) may result in damage to other organs.

* See Ward and Lock's Long Life Series, "Long Life, and How to Reach it," in which the reader will find the whole philosophy of food and clothing in relation to health very clearly laid down.



CHAPTER II.

THE CARE OF THE SKIN IN HEALTH.

BEARING well in mind the many, many thousand pores or openings of the sweat and sebaceous glands, and remembering how the epidermal layer is constantly shed, it can be readily understood that to have a healthy skin we must have a clean one. Certain of the diseases of the skin are caused by contagious elements, and others are caused by filth, and these may be escaped by attention to cleanliness. But as the skin is exposed to many external influences, of dust, etc., and, at the same time, is constantly pouring out its own secretions on its surface, there to become dry, while there is also the *débris* of the epidermis, which is constantly shed, baths are necessary, not only to the health of the skin, but also to that of the individual, and should be practised in health to such an extent as experience teaches to be beneficial. Something has already been said on this subject in a book of this series already referred to, and the reader cannot do better than turn to the chapter on "Baths, and how to take them," in the excellent Primer on "Long Life, and How to Reach it." I attach great importance in many cases to the morning bath; if quickly and vigorously taken, and if a

good reaction be obtained after it, it is conducive to the restoration and maintenance of health; though many cannot bear it, and there is danger of its being overdone.

When Turkish baths were introduced, it was thought that by this means we would be able to rid the system of many of its ills, and that their universal use would greatly promote health and prolong life. But it is questionable as to how much real benefit they are to the community (though they undoubtedly are of great value in certain cases), and it is not at all doubtful that they have been productive of harm in many instances. I do not know that it is the prolonged or repeated use of the Turkish bath which does the harm, for I have recently questioned an attendant who for five years spent three hours daily in it, and her health was perfect. The only difficulty she had was occasioned by her drinking inordinately of iced-water, until finally the stomach rejected it. She had dyspepsia, was obliged to leave this work, and I saw her with a nettle-rash six or eight months after ceasing her occupation. While she was employed at the baths, she was very well, and stated that the other girls were always well also, all the functions being performed with perfect regularity.

The dangers from the bath result almost always from not carrying out all the directions indicated by experience in regard to its use; that is, there is danger in becoming too rapidly heated, or in not allowing sufficient cooling-time, or in taking the bath too soon after or before eating, etc.; or a weakened heart, or a tendency to apoplexy, may be a source of danger.

As a means of removing the external *débris* of the skin, the Turkish bath stands unequalled; and as an

occasional stimulant and quickener of the vital processes, it is certainly of great value; but in taking it, one must be guided by the sensations produced at each step, and by the advice of those experienced in the charge of the establishment, rather than by that of some friend who has stood this or that temperature, or has remained for such and such a time in it.

In regard to the care of the skin of the face in health, a few words may not be unwelcome to some. Powders are very largely used by ladies to cover the defects of complexion, and the question is continually asked, whether their use is injurious. I reply, that I have seen a number of instances where eruptions on the face have been directly traceable to some of the toilet-powders and cosmetics sold in the shops. Therefore, as their composition is secret, and as some of them, by analysis, have been found to contain very poisonous ingredients, as large quantities of lead, and as others are known to be detrimental to the skin, they should be avoided as a class, however seductive the advertisements, or however positive the assurance on the part of druggists or friends that they are "*perfectly harmless.*" Such a recommendation recalls the Irishman's holy water, when in the dark he sprinkled a number of persons from an ink-bottle, mistaking it for the one containing holy water, remarking, as he did it, "if it does you no good, it will do you no harm." Patent and advertised remedies, while they seem to do no harm at the time, will often have a flood of light thrown on them by after-circumstances, which determine their real character and effect when too late. Those who value their health and beauty of complexion should never even *try* them.

The application which I prefer for the purpose of removing the greasiness of the skin is pure *rice-powder*; and I direct patients not to get that already in packages, but to buy the freshly prepared and perfectly pure article, by weight, from a reliable apothecary. Or, if a substance more absorbing to the greasy matter is much desired, I allow a little calcined magnesia to be used. A certain amount of friction applied to the face daily will do much to keep the pores of the sebaceous glands open; and by stimulating the face to prevent the formation of the black specks and red spots so common in young people. I generally direct that the face be rubbed to a degree short of discomfort, and that the towel be not too rough.

There is no intrinsic reason why soap should not be applied to the face, although there is a very common impression among the profession as well as the laity that it should not be used there,—that is, while soap is acknowledged to be useful and necessary to the skin of every other part of the body, on that of the face alone, which resembles the rest of the surface in construction, the popular impression is that it should never be allowed. This is probably due to the possible annoyance caused by the soap getting into the eyes, unless care be used. In direct opposition to this idea may be placed the fact that in the treatment advised by most dermatologists where the sebaceous glands are disordered, as in seborrhœa, comedo, and acne, great reliance is placed upon solutions of what is known as *sapo viridis*, a potash soft-soap, imported from Germany, whence the treatment originated; or even in the rubbing in of this soap itself.

The fact is, that many of the cases of eruptions upon

the face are largely due to the fact that soap has *not* been used on that part; and it is also true that, if properly employed; and if the soap is good, it is not only harmless, but beneficial, to the skin of the face as to that of every other part of the body.

This leads to a few words on the subject of soap and its use on the healthy and diseased skin. Much might be said on this subject, if space permitted. There are very great differences in soaps and in their effects upon the skin, and as familiar extremes may be mentioned the common yellow, bar, washing soap, and coarse soft soap, which are stimulating and very irritating to many skins, and very old Castile, or some of the best toilet soaps, which have little, if any, effect on the healthy skin except that of cleansing.

The requisites of good soaps are: first, that they shall not contain too much alkali, only enough to saponify the fat; second, that the fat from which they are made shall be good, pure, and sweet. For in the refuse sometimes employed for soap making we may find decomposed matter; and cases are on record where pus globules were actually found in a soap which had caused and kept up a skin disease, and in another instance minute spicula of bone were found, microscopically, in soap which had produced an eruption on the face each time it was used for shaving. Thirdly, good soap must be perfectly mixed, boiled, in order to produce the chemical process called saponification. The latter may be produced, to a certain degree, by cold mixtures aided by pressure, but to make the best soap long continued boiling is necessary. Fourthly, a good soap should be free from extraneous substances as largely as possible. Many of the cheaper soaps have clays and earths mixed with

them to increase the bulk and reduce the cost ; many are colored, green, blue, red, etc., often with materials of very questionable value, and are scented with some of the strong perfumes, often manufactured of petroleum, and of irritating character.

For all these reasons a good soap cannot be cheap, and great caution should be used to avoid those which are thrust upon the market either as being very cheap or which are gotten up showily, as these are pretty certain disguises for poor material.

A word may be added in reference to the so-called "medicated soaps," whose number and variety are legion, each claiming virtues far excelling all others previously produced. The recounting of the varieties and vaunted virtues of these soaps would many times fill this entire book. Now all or most of this attempt to "medicate" soap is a perfect farce, a delusion, and a snare to entrap the unwary and uneducated. The only quality required of a soap is that it shall be harmless, prepared of pure materials, and with no foreign admixture, as already described ; to attempt more than this is to fail entirely. The healthy skin cannot be improved beyond health ; and the diseased skin cannot be restored to health by any possible combination used in the form of soap that is employed by the laity ; although, as remarked before, a certain potash soft-soap, *sapo viridis*, does enter into the medical treatment of certain diseases of the skin.

Take, for instance, a soap which might possibly be thought to be an exception—a sulphur soap. Sulphur will cure the itch, and is used more or less in the treatment of several diseases of the skin, "*therefore*," says a money-making manufacturer, "sulphur soap will cure *all* diseases of the skin." It is advertised,

thousands buy it, some recover of slight ailments, and the manufacturer reaps the profit. From my notes, I could give dozens and dozens of cases where all these soaps have been employed in vain or to the harm of the patient. Now the very idea of a soap precludes the idea of its curing disease. Soap is to cleanse. It is applied but for a few moments and washed off, and is incapable of effecting the cure. The assertion can be made with truth, that scabies, or the itch, which sulphur, if rightly used, will certainly cure, never has been, and never can be, cured by this remedy used in the form of soap. The same is true of other diseases.

Tar soap stands on a somewhat different footing, but its real virtues are a thousand-fold magnified in its advertisements. As an adjuvant, it is good, and not infrequently prescribed by dermatologists in the treatment of diseases of the skin, simply because if a good article is employed, the little stimulation of the tar, even for a short time, may do good in certain cases; and if used, it may prevent the patient from employing other soaps which may prove injurious. But that it neither keeps the skin always well, nor cures it when diseased, my notes of cases afford very numerous instances. Carbolic soap is useless and may be dangerous, because the carbolic acid may possibly become the blind beneath which a cheap, poor soap is used; for in all these advertised and patented nostrums the temptation is great to employ inferior articles that the pecuniary gain may be greater. The small amount of carbolic acid incorporated in the soap cannot act as an efficient disinfectant.

But not only are many of these medicated soaps useless, but they are positively injurious in many ways. First, they often prevent the patient from applying

for proper treatment, until the skin difficulty has become chronic ; second, in a very large share of cases, the variety employed is exactly the wrong one ; and, third, because in many instances no soap at all should be used, or, if used, it should be in a particular manner suited to the individual case. Thus, all physicians see cases of eczema, and other skin diseases, which are constantly injured by the injudicious application of the soaps advertised to cure this and that affection. Now, the public certainly cannot be expected to discriminate between diseases which oftentimes years of study fail to make clear to the physician ; nor can a druggist or friend do any better. The harm, then, resulting ultimately from these advertised soaps is very great.

Another class of soaps, largely advertised and freely used, is what might be styled "soothing soaps." As examples of these, we have glycerine, honey, mallow, cuticura, oatmeal, lettuce, and almond soaps, together with a host of others. Now, these again are liable to adulteration, being too often made by unknown and irresponsible parties. At their best, they are only bland soaps (which, indeed, they *often* are not), and are in no way superior to a perfectly pure, carefully prepared soap *without* these supposed healing additions. In other words, soap is not and cannot be made healing, and where a healing application is required, it certainly should not and cannot be in the way of soap.

The safest soap to use of those ordinarily employed is undoubtedly very old white Castile soap, which is composed, or should be, of olive oil and soda ; although the *more expensive* soaps of our best and well-known manufacturers may generally be relied upon

as effecting all that is possible in this way. As remarked before, a good soap cannot be very cheap. There is, however, one soap which has met such warm commendation from writers that it should be mentioned here, as I can endorse much that has been said by Mr. Startin, Mr. Erasmus Wilson, Dr. Tilbury Fox, and Mr. J. L. Milton, of London, concerning it. The latter gentleman made some studies in this matter, and on page 43 will be found a table from his little book on "The Hygiene of the Skin," showing the composition of certain soaps. It was through his instrumentality that Pears's Hospital (or unscented) transparent soap was made, which has obtained a wide reputation, and a deservedly good one; though, of course, there may be many other soaps possessing equally good qualities.

In regard to the actual use of soap to the healthy skin, not a doubt can exist as to its value, for the greasy secretion and epidermal *débris* of the skin can only be removed by this means, together with good friction. But, on the other hand, soap can and frequently does, together with the water employed, cause actual disease of the skin. As an example of this we have what is known as the "washerwoman's itch," a distressing form of eczema of the hands, which is well-nigh incurable as long as the washing is persisted in.

As to the use of soap on the diseased skin, there is in general far more chance of doing harm with it than there is of doing good; for, while cleanliness is valuable or essential for health, too much washing can do much harm to many, if not most, skin diseases. The most common example of error in this regard is in the eczema of children, milk-crust, or tooth-rash, as

ANALYSES OF THIRTEEN SAMPLES OF TOILET SOAP,

By DR. JOHN ATTFIELD, Professor of Practical Chemistry at the Pharmaceutical Society, London.

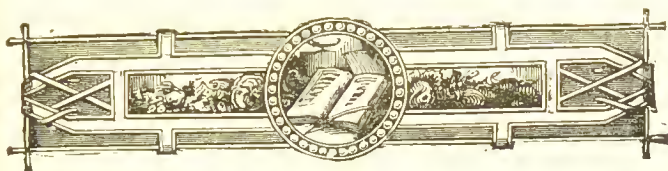
(The figures in decimals show parts in 100 parts.)

Name of Soap.	Soda.	Fatty Matter.	Proportion of Soda to Fat.	Moisture.	Nitrated Ash.	Coloring Material.	Remarks.
A fair Standard for Toilet Soap. . . }	6.6-7.7	60-70	1-9¼	15-20	12-13		
Honey	6.03	59.5	1 to 10	20.5	20.0	Vegetable.	Moderately good.
Rose	6.03	67.0	1 to 11	18.1	17.7	Vermilion.	Rather greasy.
Elder-flower . . .	6.03	65.5	1 to 11	17.0	21.4	Ultramarine.	Rather greasy.
Brown Windsor . .	6.62	50.1	1 to 7½	22.0	29.0	Ochre, etc.	Impure and alkaline.
Lavender	6.67	64.7	1 to 9¾	21.0	20.1	{ Vermilion and Ultra- marine.	{ Fairly good.
White Glycerine . .	7.25	60.5	1 to 8¼	21.5	25.6	Natural.	{ Somewhat impure and alkaline.
English Transparent	7.25	67.4	1 to 9¼	15.0	12.7	Natural.	{ Very good.
Foreign Transparent	6.16	48.7	1 to 8	23.5	14.1	Natural.	{ Weak and alkaline.
French Lettuce . .	9.4	79.5	1 to 8½	6.3	20.2	{ Chrome Green.	{ Somewhat alkaline.
English Lettuce . .	8.8	37.0	1 to 4¼	33.0	20.0	Ditto.	{ Excessively alkaline.
German White . . .	9.8	69.0	1 to 7	.	.	.	{ Very alkaline.
Curd	9.4	66.0	1 to 7	.	.	.	{ Very alkaline.
A Factory	8.7	53.0	1 to 6	.	.	.	{ Unfit for use on the skin.

it is sometimes called, where the mother will wash and wash the eruption in vain, using this and that soap in the hope of healing that which cannot heal while a denuded and raw surface is continually deprived of the covering which is formed for the protection of the soft tissues beneath. The same is constantly done with certain ulcerating affections, as varicose ulcers, where cicatrization is impossible if the newly growing, delicate epidermal formations at the edges are removed by soap and water. These are but instances, which might be multiplied, so that it may safely be said that the introduction of so many soaps has produced infinitely more harm than good.

In eczema of the scalp, both of adults and infants, I have seen the disease prolonged and spread, time and time again, by the unwise eagerness to wash. In these cases I allow the parts to be washed only by rule, that is, each time by special direction; perhaps in some cases it may not be permitted once a week, and then the part is to be rapidly dried and the ointment or other dressing to be instantly applied. This is to form an artificial protection before the surface has had time to attempt to make its own protection in the way of an exudation from the surface.





CHAPTER III.

DISEASES OF THE SKIN.

NO attempt will be made in this section to give a complete treatise on the diseases of the skin for lay readers, for the vastness of the subject renders that quite impossible in the present work: the treatise of Hebra, of Vienna, covers two large octavo volumes of over seven hundred pages each. Nor will it be possible, even, to define all the disorders to which this great organ, the skin, is subject, for on a card of classification, used for teaching students, there are no less than one hundred names of different affections found. It would be useless, indeed, to go over such matters, for only about forty or fifty of these different diseases are met with each year in this country, even in special practice, and very many of the affections could not be recognized from a description as brief as would be necessary here. Moreover, the finer distinctions can be only learned from actual practice.

The object of this section, therefore, will be rather to give a general idea of the way in which the skin becomes diseased, and a sketch of the more prominent affections and their means of recognition and prevention as far as possible, together with certain home remedies and measures; for their actual treatment must always be intrusted to a physician.

First may be mentioned some of the popular ideas in regard to these affections, with criticisms upon them.

Diseases of the skin are frequently, if not generally, looked upon as loathsome, and many fear to touch them lest they should contract the disease. In regard to this, it may be stated that there are only two or three out of the hundred which are contagious, and that not one case of skin disease in fifty could give the disease to another person. They are also regarded as indicative of something evil, of which the owner should certainly be greatly ashamed; and any eruption on the skin always subjects the bearer to a certain amount of suspicion that something was certainly wrong either on the part of the sufferer or his ancestors. In answer to this, we may say that the skin is subject to many, many diseases of whose origin the patient and his progenitors are quite as innocent as is the sufferer from a common cold, a pneumonia, or a fracture. A very small proportion of the eruptions met with have any connection with syphilis.

Again, many suppose and intimate that the cutaneous disease is an outward expression of some poison which thus seeks exit from the system; and that if it is only allowed to work itself off through some eruption, all will be well. It is needless to do more than to deny all such crude dogmas, and to assert plainly that there is no scientific ground whatever for such assumptions; and also that there is no more mystery in diseases of the skin than in those of any other organ. There is no *demon of disease*, although disease may at times almost make demons of men.

As a variety of this form of popular thought, we have also the expression of "bad blood" as a cause of skin diseases, and many complain that their "blood

is in a dreadful state," adducing as a proof the eruption on the skin. Now nothing, or next to nothing, is definitely known in regard to the condition of the blood in disease, beyond a comparatively few well established facts; and chemical and microscopical study fails to show that there is "bad blood" in any of the diseases of the skin. It is, however, true that imperfect digestion has much to do with some skin diseases, and that internal remedies are necessary in very many of them arising from constitutional conditions; but it is equally true that certain other skin diseases are local in origin, and have nothing to do with the blood.

In consequence of the prevailing idea that any disease on the skin must be the result of some internal ferment, the external manifestation of "bad blood" seeking to gain exit, we have the dangerous and troublesome opinion, very prevalent, that it is not safe to cure eruptions on the skin lest "the disease" should fly to some other part of the system; and one hears continually the fear expressed lest the disease should be "driven in," or lest it should "strike in." Some old woman, male or female, medical or lay, has warned the patient or friends that such and such an eruption should by no means be cured, on account of the danger of "driving in the disease."

Now, this fear rests upon absolutely no grounds whatever, either scientific or practical, as may be abundantly demonstrated. The authorities are entirely agreed in this matter, and the strongest confirmation of it is found in Vienna, where the treatment of skin diseases is almost entirely by means of local remedies; and those who know most about it insist positively that no harm has ever come, within

their experience, from the cure of cutaneous diseases. This the writer can abundantly confirm.

This fear is especially expressed in regard to the eruptions of infancy, and in scores of cases have I heard that the family physician had said that it would not do to cure the particular case in question, lest convulsions or some internal disease should result therefrom; and yet in not a single instance, out of over five hundred cases of eczema which I have observed in children under five years of age, have I ever seen cause to regret successful treatment. But, on the other hand, exactly the contrary result has happened, namely, that the former sufferers had gained in health and strength after the removal of their exhausting skin difficulty. It is high time that such errors of judgment were corrected. The very name given—*eruptions*, from the Latin, *e rumpo*, “I burst forth”—signifies how firm a hold this idea had upon medical opinion of a past, unenlightened age. The same idea is contained in the name *eczema*, which comes from the Greek *ἐκζεῖν*, to boil over.

But it may be claimed that it does happen that a cutaneous disease will sometimes disappear, and the patient have a severe fit of sickness, as pneumonia, and the like. To this it may be answered with positiveness that this was *not* cause and effect; the internal disease was *not* the skin disease striking in. On the other hand, it can be shown that if an internal disease, as a fever, attacks a person with a cutaneous affection, the outer one may disappear for a while, only to return when the internal or general sickness ceases, and this occurs whether the skin disease was being treated or not. It may therefore be stated, without fear of contradiction, that skin diseases can-

not "strike in," cannot be "driven in," even if desired, and that there is no reason why, as a class, they should not be treated and cured as much as diseases affecting any other organ of the body.

As an illustration of the errors of former times in regard to these matters, we may refer to the fact that there have been a number of pamphlets or theses written upon the danger of "driving in" the scabies or the *itch*, which is now demonstrated to be a purely local disease, dependent upon the presence of an animal parasite burrowing in the skin, as will be more fully detailed later. This is an absurdity, which is, however, quite equalled by some popular ideas still prevalent.

So far is it from being true that it is dangerous to properly treat diseases of the skin, that it may be stated that these latter are often the sign of a state or condition of the system which should be attended to for other reasons; and the surface eruption stands as the red signal-flag at the open drawbridge, to neglect whose warning is to rush into destruction. Thus, certain eruptions on the skin are a sure sign of a nervous breakdown, perhaps in a much-overworked man of business, and disregard of the warning may precipitate him into serious illness, as paralysis, etc. Many other skin affections, again, are the very earliest expression of the gouty state, and if they are neglected, and the same diet and mode of life are persisted in and medication neglected, the patient will, sooner or later, suffer from later manifestations of gout, and eventually acquire even incurable kidney or liver disease. Especially is this true of the eruptions of syphilis, to neglect whose warning may entail an endless amount of danger, ending even in permanent destruction of the sight, most serious brain dis-

ease, paralysis, etc., to say nothing of its transmission to offspring.

The danger, then, becomes evident of either neglecting these matters entirely or of endeavoring to treat them by means of advertised soaps, salves, or washes, or any of the cure-all "blood-purifiers." While some of these may reach and be suitable for single cases here and there, they are useless or harmful for the many. It must always be remembered that it is the *successful* cases which are vaunted in advertisements, while the thousands who buy the quack remedies uselessly or to their harm are never heard from.

In times past there has been very great divergence of thought in regard to the naming and classification of diseases of the skin, and much needless obscurity has thereby been thrown around the subject. But of late years those studying this branch are very much agreed in regard to the names to be employed, which are now, in all countries, based largely on the Latin and Greek.

As examples of the varieties of diseases of the skin, we may state that certain are caused by the growth of vegetable parasites, like a mould, on and in the skin, and others are due to the presence of animal parasites, as the itch or scabies.

Then there is a group of diseases whose seat is in the glands of the skin, acne, or the pimples which occur on the face of young people, being located in the sebaceous glands, while certain disorders of the sweat glands are also recognized.

Next we have a class which are called "neurotic affections," because they are due to a nervous cause, such as shingles (or herpes zoster), pruritus, etc.

The *exanthemata* embrace a number of contagious.

eruptive, febrile diseases, as measles, scarlet-fever, small-pox, etc.

We have, then, a large group of diseases which have so much inflammatory element that they are called exudative or *inflammatory affections*, the most prominent of these being eczema (or "salt rheum"), other members of the class being erythema, urticaria (or "nettle-rash"), boils, etc. In this fifth class are grouped thirty-one distinct diseases.

Another group is formed by a few diseases which are characterized by *hemorrhage* into the skin, as purpura and scurvy.

Then there are others known as *hypertrophic affections*, because there is hypertrophy, or *increase* of some of the elements of the skin. Such are ichthyosis (or fish-skin disease), warts, elephant leg, and seventeen others.

The next class is composed of *atrophic affections*, where there is atrophy or *loss* of some of the elements, such as alopecia (or baldness).

Lastly, we have a variety of skin diseases caused by a *new formation*, or new growth, in the skin, under which head come lupus, cancer, syphilis, leprosy, etc.

These groups, as well as the names of the separate diseases, are exhibited in the following

CLASSIFICATION OF DISEASES OF THE SKIN.

- CLASS I. Morbi cutis parasitici. Parasitic Affections.
- " II. Morbi glandularum cutis. Glandular Affections.
- " III. Neuroses. Neurotic Affections.
- " IV. Hyperæmiæ. Hyperæmic Affections.
- " V. Exsudationes. Exudative or Inflammatory Affections.

- CLASS VI. Hæmorrhagiæ. Hæmorrhagic Affections.
 " VII. Hypertrophix. Hypertrophic Affections.
 " VIII. Atrophix. Atrophic Affections.
 " IX. Neoplasmata. New Formations.

Class I. Morbi cutis parasitici. Parasitic Affections.

- | | | | | | |
|---------------|---|--|---|---|---|
| A. VEGETABLE. | { | 1. Tinea trichophytina | { | corporis (or tinea circinata). | { |
| | | (or trichophytosis) | | capitis (or tinea tonsurans). | |
| | | (parasite— <i>Trichophyton tonsurans</i>) | | barbæ (or sycosis parasitica). | |
| | | | | cruris (or eczema marginatum). | |
| | | 2. Tinea favosa | | (parasite— <i>Achorion Schanleinii</i>). | |
| | | (or favus) | | | |
| | | 3. Tinea versicolor | | (parasite— <i>Microsporon furfur</i>). | |
| | | (or chromophytosis) | | | |
| B. ANIMAL. | { | 1. Phthiriasis | { | corporis | { |
| | | (or pediculosis) | | capitis | |
| | | | | pubis | |
| | | | | (parasite— <i>Pediculus</i>) | |
| | | 2. Scabies | | (parasite— <i>Acarus scabiei</i>). | |

Class II. Morbi glandularum cutis. Glandular Affections.

- | | | | | | | | |
|---|---|---|---|--------------------------|---|--------------------------------|---|
| A. DISEASES
OF THE
SEBACEOUS
GLANDS. | { | I. Due to
faulty
secretion
or
excretion
of
sebaceous
matter. | { | 1. Acne sebacea | { | oleosa | { |
| | | | | | | cerea | |
| | | | | | | cornea | |
| | | | | | | exsiccata (or xeroderma). | |
| | | | | | | (or seborrhœa). | |
| | | 2. Acne punctata | | nigra (or comedo). | | | |
| | | | | albida (or milium). | | | |
| | | 3. Acne molluscum | | (or molluscum sebaceum). | | | |
| | | II. Due to inflammation of | | sebaceous glands with | | 4. Acne simplex (or vulgaris). | |
| | | surrounding tissue. | | | | 5. Acne indurata. | |
| | | | | | | 6. Acne rosacea. | |
| B. DISEASES
OF THE
SWEAT
GLANDS. | { | I. As to quantity of
secretion. | { | 1. Hyperidrosis. | { | | |
| | | | | 2. Anidrosis. | | | |
| | | II. As to quality of
secretion. | { | 3. Bromidrosis. | { | | |
| | | | | 4. Chromidrosis. | | | |
| | | III. With retention of
secretion. | { | 5. Dysidrosis. | { | | |
| | | | | 6. Sudamina. | | | |

Class III. Neuroses. Neurotic Affections.

1. Zoster (herpes zoster or zona).
2. Pruritus.
3. Dermatalgia.
4. Hyperæsthesia cutis.
5. Anæsthesia cutis.
6. Dystrophia cutis (or trophic disturbances).

Class VI. Hæmorrhagiæ. Hæmorrhagic Affections.

- | | | | |
|------------------------------------|---|--------------------------------------|---------------|
| 1. Purpura | { | simplex. | |
| | | papulosa. | |
| | | rheumatica (or peliosis rheumatica). | |
| | | hæmorrhagica. | |
| 2. Hæmatidrosis (or bloody sweat). | | | 3. Scorbutus. |

Class VII. Hypertrophix. Hypertrophic Affections.

- | | | | | | |
|------------------------------------|---|---|------------|----------------------------|-----------|
| A. OF PIGMENT. | { | 1. Lentigo. | | 4. Nævus pigmentosus. | |
| | | 2. Chloasma. | | 5. Morbus Addisonii. | |
| | | 3. Melanoderma. | | | |
| B. OF EPIDERMIS
AND
PAPILLÆ. | { | 1. Keratosis pilaris (or lichen pilaris). | | | |
| | | 2. Ichthyosis. | | | |
| | | 3. Cornu cutaneum. | 6. Verruca | { | |
| | | 4. Clavus. | | | vulgaris. |
| | | 5. Tylosis (or callositas). | | | senilis. |
| | | | | acuminata. | |
| | | | | necrogenica. | |
| C. OF CONNECTIVE
TISSUE. | { | 1. Scleroderma. | | 4. Elephantiasis (Arabum). | |
| | | 2. Sclerema neonatorum. | | 5. Dermatolysis. | |
| | | 3. Morphœa. | | 6. Frambœsia (or yaws). | |
| D. OF HAIR. | | 1. Hirsuties. | | 2. Nævus pilosus. | |
| E. OF NAIL. | | 1. Onychogryphosis. | | 2. Onychauxis. | |

Class VIII. Atrophix. Atrophic Affections.

- | | | | |
|----------------|---|----------------------|--|
| A. OF PIGMENT. | { | 1. Albinismus. | 2. Leucoderma (or vitiligo). |
| | | | 3. Canities. |
| B. OF CORIUM. | { | 1. Atrophia cutis | { |
| | | 2. Atrophia senilis. | |
| | | | linearis (or striæ atrophicæ). |
| | | | maculosa (or maculæ atrophicæ). |
| C. OF HAIR. | { | 1. Alopecia. | 2. Alopecia areata. |
| | | | 3. Trichorexis nodosa (atrophia pilorum propria, or fragilitas crinium). |
| D. OF NAIL. | | Onychatrophia. | |

Class IX. Neoplasmata. New Formations.**I. BENIGN NEW FORMATIONS.**

- | | | | |
|--------------------------------|---|---------------------------------|--|
| A. OF CONNECTIVE
TISSUE. | { | 1. Keloid. | 2. Fibroma (or molluscum fibrosum). |
| | | | 3. Xanthoma (xanthelasma or vitiligoidea). |
| B. OF GRANULA-
TION TISSUE. | { | 1. Lupus | { |
| | | 2. Rhinoscleroma. | |
| | | | erythematosus. |
| | | | 3. Scrofuloderma. |
| | | | 4. Syphiloderma. |
| C. OF BLOOD-
VESSELS. | { | 1. Nævus vasculosus. | |
| | | 2. Angioma (or telangiectasis). | |
| D. OF LYMPHATICS. | { | 1. Lymphadenoma cutis. | |
| | | 2. Lymphangioma cutis. | |
| E. OF NERVES. | | Neuroma cutis. | |

II. MALIGNANT NEW FORMATIONS.

- | | | |
|--------------|--|------------------------------|
| 1. Lepra | { tuberosa
maculosa } | (or elephantiasis Græcorum). |
| 2. Carcinoma | { epitheliomatosum (epithelioma and rodent ulcer).
papillomatosum (or papilloma). | |
| 3. Sarcoma | { idiopathicum.
pigmentosum (or melanosis). | |

A few words may be added in reference to the names used to express the parts or elements of which eruptions are composed, which are spoken of medically as *lesions*, and brief definitions will therefore be given. Thus, we speak of

Maculæ, spots, macules, or stains of the skin of various sizes, colors, or shapes, not elevated or depressed.

Papulæ, papules or pimples, small elevations of the skin, solid and generally red.

Vesiculæ, vesicles, or small water-blisters, with clear fluid contents.

Bullæ, blebs, or large blisters, so called from the resemblance to a bubble on the surface of agitated water. Bullæ may be of any size, from that of a split pea upward.

Pustulæ, pustules; small, rounded elevations of the epidermis containing pus or matter.

Pomphus, a wheal; the name given to the flat, solid elevations of urticaria or nettle-rash.

Tuberculum, a tubercle. This term has no relation to "tubercle of the lungs," but is quite a different matter, and is used to designate solid elevations of the skin larger than papules.

Phyma, a tumor. This is a large swelling in or upon the skin, and may be of any size above that of a tubercle; generally, masses larger than a cherry are spoken of as tumors.

Then there are a number of other terms which serve to designate the results or changes taking place in the skin from disease, as the following:

Squama, a scale; a portion of the epidermis which is more or less detached.

Crusta, a crust; a dried mass, generally of pus and epidermis, the product of some disease of the skin.

Fissura, a fissure or crack in the skin, such as occurs on the knuckles in chapped hands.

Excoratio, or excoriation; a laceration of the surface, generally made by scratching.

Ulcus, an ulcer; an excavation in the skin made by disease. Ulcers generally extend deep into the true skin and leave a scar.

Cicatrix, a scar; a new growth made up of hard, fibrous tissue, which replaces that lost by disease.

As remarked before, it will be impossible, as well as useless, to treat of all the diseases of the skin in the present compass, and we will therefore consider some of the more prominent, and, for convenience of reference, will take them in the order in which they present themselves most frequently for treatment.

Eczema. (Salt Rheum, Moist Tetter, Scall.)—Foremost among all diseases of the skin in importance, both from the numbers affected and the distress occasioned, must ever come this protean, multiform, or ever-varying eruption—eczema. Attacking all classes and conditions, from the cradle to the grave, appearing about equally in both sexes, it forms about one-third of all cases of skin disease, as shown by statistics. But this by no means indicates the frequency of the disease, for multitudes have it who never seek its cure, so that it may safely be regarded as forming

nearer one-half of all existing cases of skin disease. The name eczema is not, however, an indefinite one for skin disease in general, as many suppose, nor for a class of diseases, but represents a well-defined affection of the skin, quite distinct from all other diseases.

The forms under which eczema appears are so varied that it is difficult to give a brief definition of the disease or a short description of its phases and conditions.

We may state, however, that eczema is an inflammatory, acute or chronic, non-contagious affection of the skin, exhibiting varied appearances, according to the stage of the eruption, its seat, and the condition of the patient. It is never a purely local disease, but always has some constitutional conditions back of it, foremost among which is debility. This debility may be general, or may affect single organs or systems, as the digestive, the nervous, etc., or even the skin itself, as when this organ has been enfeebled by one of the eruptive fevers, as scarlatina.

Eczema often appears to be contagious, as when a whole family is attacked or when a nurse has it after attending a child affected. But in these cases it is generally found that either the same influences are at work producing the disease in all, or that some other eruption has been mistaken for eczema.

True eczema cannot be produced in one not predisposed to it by any artificial means. When the skin is irritated by croton oil, or by a burn or a scald, or by poison-ivy, etc., the eruption is a *dermatitis*, that is, an inflammation of the *derma*, or skin, and not eczema; though, in a proper subject, true eczema may be thus started, indeed, does often take its origin, from some recognized local cause.

In infancy eczema may begin at any time, from a

few weeks upward, and, when well developed, exhibits a raw, moist, red surface, which tends to cover itself with crusts, which are replaced as often as they are washed off. Its most common seat is on the face and scalp, also about the buttocks. It commences generally as a number of scattered red points, which quickly run together, and soon begin to exude moisture. It is always exceedingly itchy, and even the youngest child will try to rub or tear the affected part. When occurring on the face and scalp, and becoming crusted, it is popularly known as *crusta lactea* or *milk-crust*, because popular opinion associates it with nursing. The little sufferer is very frequently left untreated, with the assurance that the eruption will cease when the teeth appear; but these come, one after another, and yet the eruption remains, and it is then called "tooth-rash." Still, no relief is attempted, with the expectation that when all the first teeth are cut the eruption will disappear. This it very often does, but the child has now acquired the eczematous habit, and will be liable to renewed attacks for years or perhaps for a lifetime.

But the eruption does not always vanish when the teeth appear, and I have seen instances where the real milk-crust had lasted until the cases were seen, one at twelve years of age and one at thirty-one.

This form of eruption, when discharging much fluid, is sometimes called by the people moist or running tetter (tetter being a popular name for disease of the skin), or running scall, or scald-head, a term of doubtful meaning.

Very frequently during hot weather infants at the breast will be subject to a very slight form of papular eczema, or *lichen*, in which there are scattered red

points, slightly elevated, on the cheeks, or on the arms and body, which do not give much annoyance. This is called popularly a "heat eruption," red gown, or red gum, or strophulus. It is an innocent affair, which may be relieved with a little zinc ointment, half a drachm to the ounce of cold cream.

Another form of somewhat the same condition, which is common in small children, is the *intertrigo*, or *chafing*, as popularly styled. In this we have an even red surface, from which the outer epidermal covering is absent, and which is decidedly raw, so that cleansing is painful. This condition occurs where two surfaces of skin touch, as in the neck of fat infants, in the groins, etc. In many cases it is simply the result of want of care, filth, etc.; sometimes the continual bringing up of the milk, which runs down into the neck, will keep up the trouble. But sometimes the disease is a real eczema, and requires careful treatment. For ordinary cases, cleanliness and washing with a good, non-irritating soap, and the subsequent free use of lycopodium powder, will be all that is required. Fuller's earth, well dried and very finely powdered, is also an excellent application. There is a great tendency for any powder which is applied to form a paste with the secretion from the part. This must be prevented.

In children somewhat older, say from five to ten years of age, eczema is frequently seen as raw, moist, red patches behind the ears or in the bends of the elbows or knees, or sometimes as separate, smaller, and more inflamed spots, covered with crusts, especially about the face and hands. This latter is the *impetiginous* or *pustular eczema* of writers, the crusted tetter or scall of popular parlance.

In older life, eczema is far more apt to present varied appearances, which often render the diagnosis very difficult. No part of the body is exempt from liability to attack, and at times the entire surface may be affected at once. The characters of redness and itching are always present, together with a certain amount of thickening of the skin. Writers speak of a variety of forms, according to the *lesions* (forms taken, as papules, pustules, etc.), and also make a number of varieties, according to the location of the eruption; but the disease, in its real essence, is always one and the same.

There are certain varieties which are of special interest and may receive further brief mention. Eczema of the face in adults is sometimes exceedingly obstinate, owing to the difficulty of properly applying treatment, the constant motion of the face, and its exposure to external irritants. Especially about the mouth and nose we may have the itching, slight thickening and redness of the skin remain long after there are any great outward signs of the disease; and these may recur again and again, forming very obstinate *erythematous eczema*.

On the scalp a very slight chronic eczema may persist a long time without giving rise to very much annoyance other than some desire to scratch the scalp, which is followed by a shower of white scales. This is one of the forms of disease popularly called *dandruff* or *dandriff*. When the part is examined, we see only a moderate redness, with a few scratched points and a considerable amount of scales, with a greater or less thinning of the hair. This will be more fully spoken of under seborrhœa, or acne sebacea, the more common cause of dandruff.

When occurring upon the hands, *eczema manuum*, eczema has received a number of designations. Thus, *washerwoman's itch* is a raw, itching, cracked, eruption of the hands, which may quite disable them; this has for its local cause the constant irritation from soap, soda, and water. *Bricklayer's, grocer's, or baker's itch* is much the same affection, caused by the irritating effects of occupation; in these latter, the hands are more apt to have a dry, hard, papular eruption, which some might describe as a *lichen*, which indeed differs little from eczema.

Eczema on the lower legs is often a most distressing and obstinate affection. It is seen mainly as a red surface, *eczema rubrum*, hot to the feel, covering a greater or less portion of the limb, and giving rise to great burning, aching, and itching. It is very frequently due to varicose veins, but also very often occurs independently of them. It is more commonly found in those who have led sedentary lives or who stand much upon the feet. It is very often associated with constipation or dyspepsia, and in old persons is sometimes the first sign of a general breakdown. But, so far from being neglected in such cases, it should be taken as the signal-flag of danger, and should receive careful medical attention. The itching and burning of eczema in this and other locations can hardly be appreciated by those who have not experienced it, and the scratching, which it is impossible to avoid, without assistance, renders the disease worse and worse.

Eczema upon the legs not infrequently gives rise to ulceration of greater or less extent, which ulcers are extremely difficult to heal while the condition which causes them exists. Happily, in the rubber bandage,

of recent introduction, we have a most excellent assistant to the cure of these cases, and if judiciously applied, it is capable of affording the greatest relief in a very large proportion of instances, both in those in which large varicose or swollen veins are visible, and in those not so characterized. But, as remarked, this condition of the skin is often the result of long-continued constipation or obstructed circulation in the abdomen, and should be so recognized and treated.

Space fails to describe more particularly the various forms and conditions under which eczema may appear; suffice it to say that in the more acute forms we more commonly have a larger or smaller surface of red skin, congested, more or less hot, and often exuding moisture. In the more chronic varieties, the *thickening* of the skin is the marked feature, which is attended with much, often fearful, itching, while the surface may be more or less covered with dry and hard scales. Eczema may at times resemble almost every other disease of the skin, and the diagnosis in some cases becomes very difficult.

In regard to the causes of eczema, they are of two kinds; first, the local, and, second, the general or predisposing causes. Anything which irritates or inflames the skin can excite eczema in one subject to it; thus we see the eruption appearing again and again in many cases, as often as the local irritation is repeated. The list of exciting causes is of course as great as the number of articles or conditions which might irritate or inflame the skin. Thus, poison-ivy may start a real eczema, also arnica, croton oil, poisonous dye-stuffs, as in some colored socks, sulphur ointment, etc. Or the changes of temperature, heat and cold,

also friction, etc. In infants, irritating diapers, or neglect to change them promptly, is a frequent cause of eczema of the lower parts; and I have reason to believe, on the other hand, that too frequent and careless washings, or irritating soap or towels, may frequently give rise to it.

But there is some state of system back of all this, in order to have these irritants give rise to true eczema. While we must acknowledge that the skin, as an independent organ, can have its own diseases which are independent of other organs, we cannot deny that, just as in gout and rheumatism, there is a certain acid condition of the blood which gives rise to the inflammation of the fibrous structures around the joints, so in some skin diseases there is a somewhat similar state which occasions the local disease in the skin.

We have, then, many cases connected with an acid, gouty, or rheumatic state of the system, and in others what is known as a strumous or scrofulous condition. Still other cases are wholly nervous in origin. We have also some cases where there is only a general debility, which acts as a cause. It can, therefore, be taken as a fact, that eczema does not attack persons in perfect health, but signifies the necessity of medical, dietetic, and hygienic treatment.

The treatment of eczema is so varied, according to the patient, the location of the eruption, its stage, and condition, that no rules can possibly be given for its home management. Indeed, it should always be treated medically, and certainly never by quack medicines.

There are, however, certain elements which may with advantage be attended to by the patient, who

can thus aid greatly in the treatment of the case. Diet and hygiene are all-important, and will be spoken of in a separate chapter, in connection with that of other diseases. When speaking of bathing, I mentioned that too frequent or too severe use of soap and water frequently delayed the cure in many diseases of the skin. In none is this more true than in eczema; and the surfaces affected should only be washed by rule, as directed by the physician. The frequent use of water will keep up the eruption in very many instances, especially in those with tender skins. It should always be remembered, that after washing, the surface must be protected from the atmosphere as quickly as possible by the dressing suitable to the case. Sea-bathing, as a rule, aggravates eczema.

Much difference in the progress of the case may be made by the manner in which the applications directed are used. As a rule, ointments act much better when spread on muslin or lint and laid on the part than when spread on the diseased surface, however carefully this may be done. Most ointments should be used freely, spread on linen or lint as thick as the back of a table-knife, and then laid upon the part and made to fit closely upon it. Where the surface is at all curved or irregular in outline, it is far better to spread a number of strips, and lay them on, partly overlapping each other. In treating the hand, it is very common for patients to rub on the ointment and then draw on a glove. This is a poor way, indeed, as the glove generally takes off much of the ointment, and the results are by no means as good as when the above plan is followed.

Much may be accomplished, frequently, in the way of preventive measures, in eczema. A large share of

the eruption in this disease is due to the scratching which results from the intense itching peculiar to the disease. This itching will frequently be very troublesome before much or anything is seen on the surface. If, therefore, by the mental control of older persons, or by physical restraint of children, we can assist in preventing the development or increase of the disease, we can assist much in the medical treatment of the case.

Also in infants who are beginning to chafe, much can be done to prevent the full development, by assiduous care of the parts. Too much washing aggravates the trouble, and should be avoided as much as possible, the parts being wiped off with bran-water, or oatmeal-water (made by boiling a handful of bran or a few teaspoonfuls of oatmeal in a quart of water), and immediately dusted with lycopodium, or starch-powder. When the parts are really raw, a little weak oxide of zinc ointment, half a drachm to the ounce, may be applied, spread on strips of muslin. It is well to scorch the cloth first against a hot stove.

The irritating action of certain articles of clothing must ever be borne in mind. Thus, woolen clothing must never be allowed in contact with eczematous skin; and when flannels are first put on in the autumn, they not unfrequently give rise to so much irritation that eczema may result.

The poisonous effects of certain dyes must not be forgotten, as cases are continually presenting themselves where colored socks have been the starting-point of eczema. Instances are also on record where gloves, colored shirts, etc., have caused artificial eruptions which may pass into eczema; and I have seen eruptions produced by black crêpe when it touched the skin; also from a hat-lining.

In regard to the prognosis, or the probabilities as to the cure of any particular case of eczema, it may be stated that the disease varies so greatly in different persons, that no general statement can be made in regard to the time which will be required. It may, however, be distinctly stated, that eczema is a curable disease, though in certain forms it may prove very obstinate. The fault very often lies in the patient, who becomes wearied of the restrictions imposed and of the routine measures employed, when a little more patience would result in a cure.

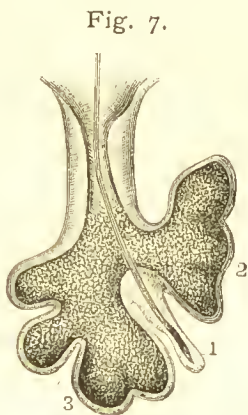
Malaria has been claimed by some as a cause of eczema, and although its influence in producing the disease has been greatly overdrawn, it may unquestionably have its effect in prolonging it. In cases where malaria is influencing the case for bad, there will very frequently be found an increase of the itching or burning of the eruption at some particular part of the day (other than on undressing at night, when the itching is almost always much aggravated). Sewer gas may also act as a depressing agent to the system, and thus keep up the disease.

Acne. (Pimples. Flesh-worms.)—Next to eczema in frequency, if indeed it is not more frequent, is acne, which is often the bane of much happiness to young people. Few persons pass through the period between fifteen and twenty years without having some development of the pimples of acne, although in comparatively few are they sufficiently numerous or lasting to warrant medical interference.

The seat of acne is in the sebaceous or oil-glands of the skin, and the eruption shows itself as papules or pustules (commonly called pimples), of various sizes, scattered more or less abundantly over the face,

neck, back, and chest. Each individual spot generally takes from a few days, say four, to a week or ten days to run its course (although in the indurated form they may last weeks), and the disease is kept up by fresh crops appearing from time to time.

Generally, however, these inflamed papules or pustules are not the only signs of disorder of the sebaceous glands, but we have associated with them numerous little black specks in the skin; these are popularly called flesh-worms or grubs, because of the resemblance which the little masses pressed from them have to a worm, and because of the popular idea that they are indeed "*flesh-worms*." These little specks are called each a *com'edo*, in the plural, *comed'ones* or *comedos*, and consist of the hardened sebaceous matter which should be poured out on the surface as a fluid, but which, from wrong action, becomes hardened, and thus distends the cavity of the glands. The blackened end is due to dust from the atmosphere. The distended gland is well shown in Fig. 7.



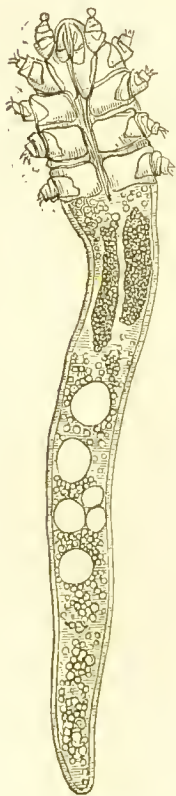
Sebaceous gland, distended with secretion, in *com'edo*. Greatly magnified.

1. Minute hair in its follicle. 2, 3. Lobes of the gland distended.

The foundation for the popular idea that these plugs, which can be squeezed out, are themselves worms or insects, lies in the fact that there is in reality a very minute animal which inhabits these glands, although by no means of such a size as one might imagine. It is exhibited in Fig. 8; it is called the *demodex* or *stea-*

tozoon folliculorum; its length is from $\frac{1}{150}$ to $\frac{1}{75}$ of an inch, and its breadth about $\frac{1}{385}$ of an inch. But this little animalcule is perfectly harmless and entirely innocent of the disease, as it is not supposed that it has the slightest effect in producing any disorder of the sebaceous glands. There may be several found in a single plug, or, again, many plugs may be examined without finding any of them; their existence is mentioned only to clear up the popular ideas on the subject.

Fig. 8.



Demodex folliculorum.
Very greatly magnified.

Acne is one of the few diseases of the skin peculiar to a particular time of life; it may be said never to occur in young children; is rarely, if ever, seen before twelve to fifteen years of age, and is rare after thirty; although the rosaceous form may occur much later, even up to fifty years of age.

While acne is a disease of the sebaceous glands, it is not to be regarded solely as such, for it has relations with the rest of the system which it is important to bear in mind. Indiscretions in diet can bring on fresh spots at almost any time; the articles which do this most frequently and certainly, are richly fried foods, fried oysters or fried egg-plant being types of the worst class of them. Buckwheat griddle-cakes will almost certainly provoke an eruption of

acne in those predisposed to it, as will also sausages and mince pie. Pastry of all kinds should be largely

avoided by those subject to acne, as also nuts, raisins, and cheese, hot bread, cake, preserves, etc. It is not the fat in these things which is bad, for oils are frequently given internally in acne. Butter, also, which is popularly supposed to be so harmful, is not so unless it is burned or melted into other substances.

One of the most frequent causes of acne in those of older years is the use of fermented liquors, ales, beer, and wine, and it is often quite impossible to remove the eruption while these are persisted in; and their use again may cause a relapse.

But acne has also relations with internal states which often require very careful medical investigation; for, in by far the larger number of cases in those who have the eruption after the age of twenty, we will find derangements of the urine, as shown by chemical and microscopic examination, which indicate disorders of digestion, imperfect liver action, etc. Again, constipation is a very frequent accompaniment of acne and a cause of its obstinacy, and frequently requires medical care, although home measures may benefit this, and with it the eruption to a certain extent. It is not sufficient to use occasional purgatives, nor to keep the bowels acting with the mineral waters or injections, although these are of more or less service, and may serve to keep the eruption in check.

In regard to the actual treatment of acne, the measures suited to different cases vary so greatly that no brief directions can be given. It is hardly necessary to say that there is no one remedy which will cure the disease; for, as previously remarked, there is no such thing as an actual disease to be "driven out of the blood," as so many non-medical people imagine. Disease is wrong action, and, to remove it, we must

set the action right. Arsenic will not cure acne, although it may come in as an aid when other causes are removed.

In some cases of acne the eruption has been excited by a particular indiscretion, either in eating, or from a check of perspiration, or some cause which has deranged the system. In these cases, therefore, what remains is really a local disease, and the eruption may be removed by local treatment alone,—washes, ointments, etc. A simple wash, of quite considerable service in acne and quite harmless, may be made with a drachm of precipitated sulphur, a drachm of tincture of camphor, a drachm of glycerine, and four ounces of rose-water. Most of the lotions advertised for these eruptions contain sulphur, corrosive sublimate, lead, or bismuth. Some are harmless and comparatively inert, but many are positively injurious; and I have seen a number of instances where acne was caused by the so-called cosmetics.

It is a common habit with many to squeeze out the little plugs which blacken the face. There is no objection to so doing, provided the skin is not bruised in the process, and provided it is successfully done. If one is squeezed, and the little plug does not come out, it will inflame and harm will be done. But squeezing out these plugs is about the same as emptying the bowels by an injection: it does not cure the state. It is better, however, to have them removed, because then the glands can have a chance to contract to their normal size under proper treatment; for they cannot themselves force out the hardened plug. The common, *natural* process for the expulsion of it is by means of inflammation, causing a papule or

pustule. The plugs may be pressed out between the two thumbs or by means of a watch-key, or, what is better, by a small silver tube, made for the purpose, about an eighth of an inch in diameter, with the ends rounded and drawn down to about one-sixteenth of an inch opening. This is placed over the black speck, and, by a firm, quick pressure downwards, the little worm-like mass is made to rise within the tube, and may afterwards be brushed off. Some little irritation may be caused, so that it is well always to do this at night.

Wens on the scalp and face are greatly-distended sebaceous glands, forming little sacs containing more or less cheesy matter. Sometimes they have an opening from which this may be squeezed. The treatment is by excision.

We may here best speak of *seborrhœa*, *steatorrhœa*, or *acne sebacea*, a disorder of the sebaceous glands very frequently found to accompany ordinary acne, but which may occur alone. This consists in an abnormal or unhealthy secretion of these glands, and shows itself on the surface either in the form of a greasy coating or condition of the skin or scalp, or in the collection of yellowish scales which are very greasy. Many faces are always greasy and oily, and it is only with the greatest difficulty that the deformity can be hidden; and, again, we occasionally have a scalp whose hair is in such a constant state of oiliness as to be very distressing to its owner.

The dry form of seborrhœa appears sometimes on the face, especially on the nose and cheeks, but more frequently upon the scalp, in the form of whitish or yellowish greasy scales. Upon the scalp it forms much of so-called *dandruff* or *dandriff*, and is a very

annoying complaint. Not only is it annoying from the constant shedding of the scales, like snow, upon the clothing, but is particularly uncomfortable, because it is surely attended, sooner or later, with loss of hair. In many of the cases of *alopecia*, or loss of hair, this condition has preceded.

The popular idea is that the dandruff destroys the hair,—“eats it off,” as the patients say. This is not wholly true, but, like so many popular ideas, there is a grain of truth in it. Seborrhœa causes loss of hair in two ways; first, because the hair loses its proper lubrication, which should come from the oily secretion poured upon it continually by the sebaceous glands, their secretion drying into scales; and, second, because the same causes which produce the seborrhœa operate also to undermine the nutrition of the hair, and it falls as a consequence. The dandruff does not “eat off the hair,” but it should never be neglected, because its natural end is in baldness.

The causes of seborrhœa are the same as those of acne, and the dietetic and hygienic rules of the one apply to the other. It is a disease of debility, like acne, and requires tonics.

It is useless to try to remove seborrhœa permanently by washing or combing the head, or by stiff brushing. These measures often aggravate it. There should be a certain amount of brushing daily, but that with a comparatively soft brush; while the fine-toothed comb, by removing a considerable quantity of greasy matter adhering to the scalp (which would subsequently dry and fall), gives relief for a longer time, still, by the irritation following its use, it may rather aggravate the disease. The scalp should be occasionally washed out, and an ointment or some

oily matter applied immediately thereafter. The most harmless application, and yet one often of very great service, is a pomade made of one drachm of tannin in an ounce of rose-ointment. It should be applied to the roots of the hair, and well rubbed into the scalp. Another remedy of value is that commonly used by the laity, namely, castor-oil and alcohol, with a little spirits of rosemary.

The careful use of these will generally keep the trouble in check; but as this, like so many skin affections, is a sign of debility, or often of imperfect digestion, permanent relief can be expected only from a thorough investigation of the cause and condition of the patient.

The subject of *alopecia*, or *baldness*, may be treated of here, inasmuch as it is so very frequently, though not always, the result of the disorder we have been describing.

Hair falls very frequently after acute sicknesses, almost always after scarlatina, erysipelas of the head, etc., and also during the course of syphilis. It is regained afterwards, as a rule, though in the case of syphilis careful and complete treatment for the disease is necessary. When baldness is hereditary, medical skill can do comparatively little to prevent it or to restore the loss. But where there is a low form of chronic eczema, or a seborrhœa, giving rise to the difficulty, or where the loss of hair is from general debility, the fault may be remedied, the fall arrested, and generally a very fair amount of hair restored.

But to accomplish this restoration of the scalp to health, many elements need to be taken into consideration; therefore a dozen cases of baldness might be treated in a dozen different ways and with success,

provided each plan were adapted rightly to the state then present. The hair, deriving its nutrition and stimulus of growth from the general system, must and does suffer with lowered vitality; and, while it may be stimulated into a temporary growth by various local irritants, this can neither be healthy nor permanent, because the fountain whence the supply of nourishment is drawn fails to a greater or less extent.

We can appreciate, therefore, the evil of advertising this or that remedy as a sure cure for baldness; the fallacy of which is proven by a dozen or a hundred failures to each success. Nor are remedies or applications more efficacious which propose to afford "nutriment" for the hair, or to "nourish it" by means of substances applied to the scalp. The growth and nourishment of the hair comes from and through its very deepest portion, the bulb, which is tightly buried in the deepest part of the tissue, and no outer application can possibly reach it, even if it could or did contain any substances capable of affording "nutriment" for the hair-growth.

Besides the general falling of the hair, we have a very peculiar affection in which the hair is lost completely from more or less circumscribed patches, which then appear perfectly smooth and white and shining. This has the name of *alopecia areata*, and always commences in the above manner. Generally a small spot becomes bald very suddenly, as in a night, the patient or friends first noticing the completely smooth spot in the morning. This was formerly thought to be a parasitic disease, like ring-worm; but it is now known not to be such, but is of nervous origin. Sometimes the disease progresses very rapidly, so as to sweep off every hair from every portion

of the body, leaving the entire surface as smooth as an infant's, and without even downy hair.

Psoriasis. (Dry Tetter.)—The next most common disease is probably psoriasis, which comes far behind eczema and acne in frequency, forming only about one-fifteenth of the whole number of cases of skin diseases. Psoriasis may affect persons of all ages, but is very uncommon in young children, and seldom develops for the first time in persons over forty years of age. It is characterized by the presence of separate spots or patches of diseased skin, which are of a dull red color, and have on their surface (unless it has been removed) an abundance of white scales, which fall readily. These scales are spoken of medically as micaceous, because they are in layers like mica. It is also spoken of as a furfuraceous eruption, because of the bran-like character of the desquamation, or scaling, which will sometimes fill the bed or clothing with scales.

The separate patches of psoriasis are generally circular, and may be of any size. Thus, when they are very small, like a pin-head, the eruption is called *punctate*; a little larger, like drops of mortar spattered on it, it takes the name of *guttate* psoriasis; when still larger, like a coin, it is spoken of as *nummular*, and so on. Sometimes large surfaces may become covered by the union of a number of smaller patches, each one of which has a strong tendency to grow larger in diameter.

Psoriasis has a very decided preference for the outer or extensor surfaces of the joints, as on the elbows and the front of the leg and knee; while eczema affects more commonly the inner or flexor surfaces, as the bends of the elbows and knees. It not unfrequently

attacks the scalp, and then gives rise to much scaling, and is one of the causes of dandruff or dandriff. The surfaces of psoriasis are never moist, except when greatly scratched or irritated; while eczema tends to show moist surfaces. Psoriasis rarely itches, whereas eczema seldom fails in this.

The cause of psoriasis varies, and no short statement could be made popularly which would aid any in avoiding it. It is *not* contagious; it has no connection with venereal disease; is *not* caused by any parasite; it is only to a very slight degree hereditary.

Psoriasis was formerly called also *lepra* by some writers; but the latter term is now given to *true leprosy* (*elephantiasis Græcorum*), with which psoriasis has no connection whatever. In regard to the disease translated "leprosy" in the Bible, there is considerable difference of opinion. Many believe that a number of distinct diseases of the skin are included in the descriptions given, and that the "uncleanness" was simply ceremonial. Neither the true leprosy, nor psoriasis, which latter some of the cases appear to be, (as that of Moses's hand and of Miriam, also that of Naaman and of Gehazi, who are spoken of as being "as white as snow,") are at all contagious. We still have a considerable amount of the true leprosy, and cases present themselves occasionally in New York, both brought from foreign countries and acquired here. The writer has seen nearly a dozen cases in this country. It is indeed a loathsome and distressing disease, for which but little can be done; in this it differs greatly from psoriasis, which is amenable to treatment, although often very rebellious, and having a great tendency to relapse when removed.

Syphilis. (Venereal Disease.)—Next in frequency

in statistics come the eruptions on the skin which are caused by syphilis, although, probably, the real frequency of this dreadful disease is by no means indicated thereby, as many affected with it shun observation even of regular physicians. Syphilis is an infectious disease, always acquired by means of the poison which has come from some other person affected with the same. It never can by any possibility develop anew of itself. As is known, the most common mode of acquiring the disease is by impure contact; but it is not so generally known that many have become infected by means and in ways of which they were quite as innocent as is one who receives scarlet-fever, measles, or small-pox. Cases are on record which show this abundantly, and the writer has met with not a few.

There is no necessity of alarm on the subject; but it is only right that the public should know of the possibilities in regard to this disease, for many have been unjustly accused in times past, because of ignorance on this subject, both on the part of the profession and the people; and cases are continually occurring to every one who sees much in this line, where it is impossible to discover when or where the original poison was acquired. The secretion from the sores of syphilis is contagious, including that from certain whitish, slightly raw surfaces, called mucous patches, occurring in the mouth and elsewhere later in the disease.

The physician, therefore, stands in constant danger of contamination, and not a few members of the profession have thus suffered in caring for others. Glass-blowers are wont to pass the blow-pipe from mouth to mouth, and instances are on record where a number

have been infected by the contagion which was carried on the tube from the mouth of one person affected with syphilis. The same has been recorded with reference to smoking-pipes.

Syphilis has also been communicated directly from the sores in the mouth, called mucous patches, to the lips of another in the act of kissing; and the writer has seen the disease given by means of a bite. Not long ago a number of cases of syphilis were traced to a man who had communicated the disease by using his saliva to moisten the ink in the process of tattooing.

Again, infants who have the disease by inheritance may in turn give it from their mouths to the breast of a healthy nurse; and the writer had one case where this had happened, and the disease was thence given again to the nurse's own child, who long suffered from the effects of the disease. Or, a wet-nurse, with the disease, can introduce it into another family, as has occasionally happened, through the nursing infant. Wet-nurses, therefore, should always be carefully examined by a physician before employment.

In regard to the dangers of the introduction of syphilis by vaccination, they have been very greatly overrated; for, while undoubted instances of this have occurred, they are infinitesimally few in number compared to the number of vaccinations performed; and it may be said that this never occurs now that the danger is known, for medical skill can very readily avoid such an accident. No new cases have been reported for some time. This danger can be absolutely provided against by the use of the vaccine virus obtained from the calf.

As remarked before, when introducing the subject

of the acquirement of syphilis, these items in regard to its mode of transmission, which might be multiplied considerably, are given not to cause any unnecessary alarm, but for the double reason that the true facts might be known, and that some care may be exercised in cases where there is any possibility of contagion. Where the mouth is affected, I always caution patients of the danger of giving the disease to others.

In this connection may be mentioned the danger attending the habit of indiscriminate kissing inflicted upon children. Aside from its uselessness and repulsiveness, there is real danger that disease may be thus communicated. Syphilis has also been reported as given by means of certain toys, for the poison may be left on any article, dry on, and then when applied to the mouth may be removed and give the disease. Thus, the balloon-whistles often sold in the streets, frequently by the lowest class of persons, also any other toys which are applied to the mouth, may be a source of great danger.

It is well to know that these accidents can take place only through broken skin, for where the epidermis or scarfskin is perfect and sound absorption does not take place. Thus, a chancre of the lips or nipple will be found to be formed upon a previous fissure or crack; the inoculation of the finger of a physician will be found to be in the site of some preceding cut or scratch, etc. The same is true in regard to other poisons. Thus, the wounds sometimes incurred in dissecting do not occur when the cuticle is unbroken, but follow either a previous scratch or one made in dissecting.

The first sore of syphilis, occurring on the place

where the poison entered, is called a *chancre*. It is often quite an innocent-looking affair, having a peculiar hardness or *induration*. The other form of venereal sore, *chancroid*, is a local disease, not followed by constitutional syphilis; but this local sore is often more serious looking than the true chancre. *Bubo* is the name given to the swelling of a lymphatic gland near the seat of the sore, as in the groin.

The subject of the *hereditary transmission* of syphilis is one which can be hardly entered upon here, and information must be sought from a medical adviser, where it is desired. Suffice it to say that the disease is so transmitted in a certain proportion of cases, and is the source of much premature death and disease.

He, therefore, who exposes himself to venereal disease does not endanger alone his own health, peace, and happiness, but assumes a risk for posterity which is criminal on his part. The physician alone can understand the terrible nature of this disease; and could the people but see a tithe of what is witnessed by a physician who practises in this line, there would be such a wave of popular feeling and action that, if it could not sweep prostitution far from the habitation of enlightened man, would at least restrain its ravages by sanitary laws even more stringent than those applied to small-pox and other contagious diseases. The opinion is strong among many medical men that the person who communicates venereal disease should be punished as severely by the law as he who would voluntarily spread small-pox, commit arson, or murder.

The manifestations of constitutional syphilis are so varied and different in individual cases that no attempt can be made to open the subject clearly at the

present writing ; for only a perfect knowledge of the disease and long training can render its recognition possible in every case. The lesions or appearances which it produces on the skin may simulate almost every disease which affects that organ, and frequently the diagnosis will prove very difficult. It would, therefore, be useless and misleading to attempt in the space at command to give any intimations of any characteristic appearances.

The *prognosis* of syphilis is always one of great interest to the patient : Is the disease curable ? The manifestations present at any one time are generally quite readily removable by proper medical treatment, but when this is done, the disease should never be regarded as cured ; for the chances are very great that if treatment be suspended immediately on their disappearance, and if all care for the health be neglected, that there will pretty surely be later difficulty from it. To be at all sure that one will not suffer from later manifestations, the treatment proper to the disease should be carried out very completely and for a great length of time. The necessary duration of treatment cannot be foretold in any one case, but it is to be measured by months, and even years, rather than by days or weeks. The best authorities now believe that some treatment should be carried out faithfully and persistently for at least two years. This does not mean that medicine is to be taken regularly the entire time for this period, for the greatest weight of authority is in favor of what is known as the intermittent treatment, where there are certain definite breaks or interruptions in the taking of medicine. These are not, however, to be taken by the patient at will ; nor are they to be determined by the absence of act-

ual signs of disease, but according to rules well recognized and known. The occurrence of relapses or reappearance of eruption, etc., is to be regretted, and should be guarded against and prevented rather than waited for and taken as indications for treatment. If this last be done, the case may continue for many, many years, generally going on from bad to worse, until brain lesions, or disease in other important organs, may endanger or destroy life.

In regard to the treatment of syphilis, absolutely nothing can be said, for under no circumstances should the patient, even though he be a medical man, attempt to guide his own case—like the lawyer pleading his own case in court, he has a fool for a lawyer or physician and a fool for a client or patient.

If well treated, and if the patient be able and willing to follow every necessary direction, there is comparatively little need for anxiety or distress in syphilitic patients; the more dreadful manifestations need not appear; these are seen mainly in hospitals among the poor and neglected, who have had too little food and too much alcohol and tobacco.

In regard to the fear of taking mercury, lest it should “remain in the system,” as is often said popularly, there is absolutely no ground whatever for such fears. Mercury taken in proper doses and when required, has been proved to be a tonic, the number of the red globules actually increasing greatly under its use; that is, the blood improves in quality. Many years ago the practice was to salivate for syphilis; this is as doubtless harmful and unnecessary. The modern treatment of syphilis cannot but benefit the patient in every way.

Tinea. (Ringworm.) — The word *tinea* has been

adopted of late years to indicate the group of diseases which are caused by the presence and growth upon and in the skin of a vegetable parasite. These diseases are perhaps more common than would appear from statistics, because many of the cases are left untreated or cared for by home remedies.

The affections coming under this head are really three in number, and are distinct from each other; they are all known as vegetable parasitic eruptions. They are, first, the various forms of *ringworm* of the body, scalp, beard, etc., which have the general name *tinea trichophytina*, because caused by the parasite known as *trichophyton tonsurans*. Second, we have *favus*, or *tinea favosa*, popularly known as crust-ed or honey-comb ringworm. Third, the *tinea versicolor* or *pityriases versicolor*, or *liver spots*. We will briefly speak of each.

Ringworm, as properly understood, has nothing to do with any worm or animal life, but is caused by the growth in the skin of a low form of vegetable life allied to ordinary mould. When some of the scales or a hair affected are placed in liquid, and magnified about 300 times, we can very readily see the *spores*, or seeds, and the *mycelium*, or threads, of the fungus, as shown in Figs. 9 and 10.

Fig. 9.

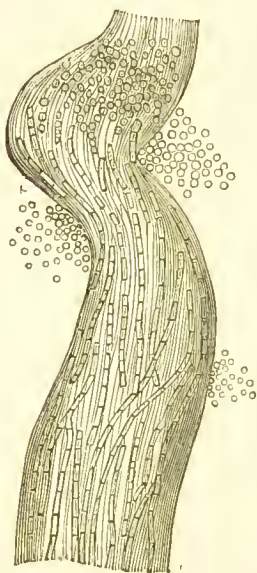


Scale from ringworm of the body. Greatly magnified.

The faint outlines are the edges of the epidermal cells; the heavier-jointed masses are the mycelium of the *trichophyton tonsurans*.

Ringworm of the scalp (*tinea trichophytina capitis*, called, also, *tinea* or *herpes tonsurans*) shows itself as a dry, scurfy, or scaly condition of some portion of the scalp, generally in separate patches, more or less circular, on which the hairs are broken off, and the surface presents a dirty appearance, with some redness beneath. In cases which have lasted long, a large portion of the scalp may be invaded, and there may be very little of the broken off or nibbled off appearance. The disease was called *herpes tonsurans*, from the suggestion of a monk's tonsure which is produced by the disease. When masses of this disease become much inflamed, the condition is known as *tinea kerion*.

Fig. 10.



A hair from ringworm of the scalp. Greatly magnified.

The shaft of the hair is penetrated with the mycelium, and adjoining are groups of spores of the *trichophyton tonsurans*.

On the face, body, or limbs, the disease appears in the form of rings of various sizes, generally pretty round, and of a reddish color; they commence as minute points and increase in size pretty rapidly, healing in the centre as the disease progresses centrifugally. When this eruption comes in the crotch of the thigh, it takes the name of *eczema marginatum*. *Chinese* and *Burmese itch* are the same affection, modified by climate, etc. Certain cases of psoriasis and eczema, also some eruptions of syphilis, look much like ringworm.

In the beard this disease forms what is known as *barber's itch*, and may prove at times a very obstinate and annoying difficulty.

All these eruptions, as also *favus*, to be next described, are *contagious*, and children with them should not go to school or play with others so as to expose them, nor should one with ringworm of the scalp or beard go to the barber's to have the hair cut or to be shaved.

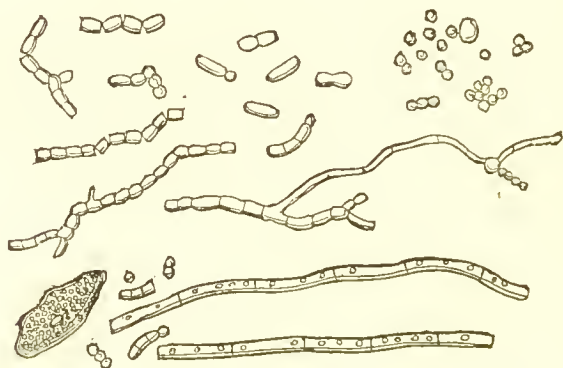
Some of the cases of ringworm of the face or hands in children or adults are trivial matters, and may be safely treated at home by such remedies as ink, a penny wet in vinegar, etc. ; but ringworm of the scalp or beard always requires very careful attention, and is often very rebellious at the best. Very frequently it can be cured only by epilation, that is, the extracting of the hairs separately by means of forceps, and the subsequent application of very severe remedies. When thus pulled out, the hairs grow again freely, and sometimes it becomes necessary to take out the same hairs again and again, before the disease is eradicated. In a case of this disease in the beard, under the writer's care, not less than 40,000 hairs were extracted during a period of some months, before the disease was removed. When subsequently seen, he had a luxuriant growth of long, soft black beard. In another instance, a girl, with ringworm of the scalp, had between 30,000 and 40,000 hairs extracted ; and a girl with the next variety, *favus*, had also between 70,000 and 80,000 hairs taken from the front portion of the scalp before the disease yielded.

The condition known as *plica Polonica* was thought to be a separate disease of the scalp, due to a para-

site. It is now known to be only a matting together of the hair, from neglect and filth, and is not a disease proper, but may be combined with any other affection.

The next variety of tinea, namely, *tinea favosa*, or favus, is due to the growth of another fungus, called the *achorion Schönleinii*, and is not nearly as common

Fig. 11.



Spores and Mycelium of the *Achorion Schoenleinii*, forming the Crust in Favus. Greatly magnified.

as the ringworm just described. This is the *porrigo* of some older writers, though this term has also been applied to other eruptions, as impetiginous eczema. When fully developed, it is seen in the form of small cup-shaped crusts of a pale-yellow color, which may be picked off quite readily, and are found to be easily broken up, and leave behind them a small red depression devoid of cuticle. These crusts are formed entirely of the mass of growth of the vegetable parasite, or mould, as shown in Fig. 11.

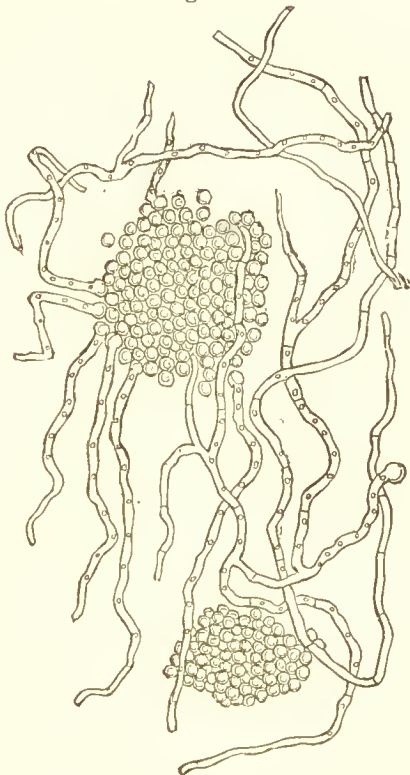
In old cases the cups are not always easily recog-

nized, and we may have merely a mass of dirty yellowish crusts matting the hair together, with some scaling. Favus may also appear on the skin elsewhere than on the scalp, when it is called *epidermic favus*. The cup-like crusts may generally be seen here, though sometimes the eruption is only scaly, and looks much like the ordinary ringworm.

The third and last variety of disease caused by a vegetable parasite, is the *tinea*, or *pityriasis versicolor*, formerly called liver spots, and also *chloasma* by some writers, though this latter name is now applied to quite a different eruption, as will be described later.

Tinea versicolor appears principally upon the chest and back, from which places it may sometimes spread on to the arms and neck, and even cover most of the body. It is made up of a number of patches of a

Fig. 12.



Spores and Mycelium of the *Microsporon furfur*, causing *tinea versicolor*. Greatly magnified.

light-brown color, which are generally roundish and of a size varying from that of a pin-head to an inch or more in diameter. They are not elevated, but almost on a level with the skin, and are either a little scaly on the surface or may be made to scale with a slight scraping. If the scales be moistened with equal parts of liquor-potassæ and glycerine, and magnified three hundred times, the spores and threads of the vegetable growth can be plainly recognized, as shown in Fig. 12.

These vegetable parasitic eruptions being wholly local diseases, acquired by contagion, require only local applications, as a rule, for their removal. The remedies are called *anti-parasitic*, and are such as destroy the life of the plant,—largely preparations of mercury, sulphur, and tar. As used by medical guidance, they are perfectly harmless; and among hundreds of these eruptions thus treated, no harm has come to the patient. Of course there is absolutely no possibility of such a disease “striking in,” or being “driven in,” to some other part of the body.

In some cases, in addition to the local applications, there is need of internal treatment and hygienic and dietary measures; because, just as moss will not grow upon a perfectly sound and vigorous tree exposed to plenty of sunlight, so the vegetable parasite, mould, or moss, will not flourish on the human frame which is in perfect sanitary condition and full of the vigor of health.

Herpes. (St. Anthony's Fire; Shingles; Water-blisters.)—We come now to the eruptions which are much less common than those already mentioned. Indeed, those thus far described, together make up about three-quarters of all the cases of skin disease

presenting themselves for treatment. The older definition of herpes related to an eruption which crept or increased peripherically, and the term has in former times been applied to a number of eruptions. It is now restricted to a single form of skin disease, namely, one characterized by the presence of flat vesicles, generally grouped together in a peculiar way. The most common variety is what is known as *herpes zoster*, *zona*, or *shingles*; also as *ignis sacer*, or St. Anthony's Fire. In this the disease is limited to one side of the body, extending horizontally from the middle line behind to the middle line in front, and consists of groups of flattened vesicles, with a certain amount of redness and tenderness of the skin between. Sometimes, when this attacks the region of the arms or legs, it runs down the limb; on the head it may occur over the eye, or about one ear, or on one side of the neck.

This eruption is attended with very considerable pain in many cases, especially in older subjects. The pain sometimes precedes the eruption, and is thought to be simply a neuralgia, for which a mustard plaster, or the like, is applied; when, in a day or so, the eruption appears, and the diagnosis should be plain. In some cases the pain afterwards is very severe indeed; which is accounted for by the fact that the essence and cause of the disease is an inflammation of the sensory nerve, or nerve of feeling, distributed over the part occupied by the eruption. Some cases, formerly or wrongly called "erysipelas" of the head or face, are now known to be this affection.

The causes of this acute inflammation of the nerve-trunk, and the resulting inflammation of the skin, are not always determined. Generally, the exciting cause

is cold; but, strange to say, it is exceedingly uncommon for a person to have this eruption a second time.

There is a popular impression that if the shingles should encircle the whole body, the patient would die. This is based on the fact that the eruption never does, and *never can*, encircle the body, if, as is almost always the case, there is a single nerve-tract affected. The nerve runs around from the spinal column to the middle line in front, to meet the nerve from the other side; and the eruption *cannot* go further than the inflamed nerve extends. It is not impossible to have two nerve-tracts affected at the same time, and such cases are on record, though they are very rare; and, moreover, cases have been observed where the two nerves were opposite each other on the body, and, consequently, where the eruption did encircle it, and yet the patient recovered. The treatment of these cases is always medical. The only suggestion to be made is to avoid irritation, and also to avoid poulticing the sores.

The common "cold sores," or "fever blisters," seen about the mouth and lips, either after a fever or with "a cold," are designated medically as *herpes febrilis*, or *herpes facialis* or *labialis*. Very little is known of their significance; their course is short; they cannot be prevented, though tincture of camphor, freely and repeatedly applied, will very often arrest them.

Very much the same eruption will appear about the genital regions, and sometimes give occasion of great annoyance. This is very apt to recur, and to become very rebellious to treatment. It is of especial interest in the matter of the diagnosis between it and the chancre and chancroid acquired by venereal contact.

This *herpes progenitalis*, as it is called, is a comparatively harmless affair, and, of course, is never gotten by contagion.

There are some other rare forms of herpes which cannot be treated of here. The *herpes circinatus* of older writers is now known as *tinea circinata*, and is one of the forms of ringworm already described. *Hydroa* is a recent term used to designate irregular eruptions of vesicles or water-blisters.

Erysipelas. (St. Anthony's Fire.)—Very much that passes under this name among the people has no connection whatever with the true disease as known medically. Eczema, acne rosacea, herpes zoster, erythema, etc., often pass for erysipelas.

True erysipelas is an acute inflammatory disease of the skin, more commonly of the head and face, attended with considerable fever, generally beginning with a chill, and accompanied by considerable prostration. The skin appears swollen, red, and shiny, and burns and is tender to the touch. The disease spreads tolerably rapidly until, perhaps, the whole head or scalp is involved. In some cases, called *erysipelas migrans*, wandering or migratory erysipelas, the eruption travels over much of the surface of the body, disappearing in one part as it moves on, and may be thus repeated one or more times.

Erysipelas very frequently starts from a wound, the so-called *surgical erysipelas*, and is justly dreaded by surgeons. Sometimes it spreads from one patient to another, as in a hospital; and in some instances the very wards will become so infected with the disease that every operation will be followed by erysipelas. It is then necessary to fumigate the building, and sometimes even to abandon certain wards for a time.

No rules of treatment can be given, as the disease should always be managed by a physician ; for it is a serious one, and may prove fatal.

Urticaria. (Nettle-rash; Hives.)—Although not the next most frequent disease on our list as presented for treatment, *urticaria*, or *nettle-rash*, is one of the more common forms of skin affections. In America this eruption is generally called “the hives,” although amongst our writers this term is applied to varicella or chicken-pox.

Urticaria appears in the form of flat, solid elevations of the skin, of various sizes, and but little height, which appear suddenly on various portions of the body, and, after lasting a varying length of time, often disappear quite as suddenly, leaving no trace of their former location. Occasionally, however, a small papule is left in the centre of the former *wheel*, as these elevations are called. This form has received the name of *urticaria papulosa*, or *lichen urticatus*. The eruption is attended with stinging, burning, or pricking sensations, and a strong desire to scratch, and the suffering is often very severe.

Sometimes the eruption comes out but once, and that after taking some indigestible substance, or something especially irritating to the particular individual. The more common internal causes are certain fish, oysters, lobsters, crabs, etc., especially if a little stale ; also mushrooms, raspberries, strawberries, bananas, etc. An attack of acute urticaria may result from these or other causes, and pass off either when the substance has been expelled from the stomach, or when the process of digestion has finished.

In many more cases we have chronic urticaria, where some wrong action of the internal organs keeps

up the disease. This will often require all the skill and sagacity of both the physician and patient completely to overcome it. Often very radical change of the mode of life is necessary.

Commonly, the itching in urticaria is worse a short period after a meal; sometimes only when the patient gets warm in bed. Occasionally we find urticaria entirely periodic, coming on at a regular time every day, or every other day, or with some such regularity, and it will be found to be a manifestation of malaria, and entirely curable by quinine given before the expected paroxysm.

In persons of delicate skin, fleas, lice, bed-bugs, and mosquitoes will cause the wheals of urticaria to arise, and a case which has long proved rebellious to medicine may yield at once to proper and sufficient personal care.

Erythema.—Closely allied to urticaria we have erythema, whose manifestations often resemble it very greatly. Two or three kinds of erythema are recognized by dermatologists; erythema simplex is a simple redness of the skin in blotches or patches, much resembling an ordinary blushing, but more permanent. The skin feels hot to the touch, and also to the patient, and the sensations are decidedly unpleasant. These congestive patches often come and go quite rapidly like urticaria, but they are not elevated; they are often called “erysipelas.”

The word “*erythematous*” is often applied to other affections of the skin, as to eczema, etc., without meaning any connection with true erythema, but only that this congested condition of the skin exists.

Another kind of erythema is called *erythema multiforme*, because, although properly an erythema, we

may in some cases have small papules as well as blotches, and the inflammatory action may even go on and form vesicles or blisters. Thus, one of the varieties is called *erythema papulatum* and *tuberculatum*; another, *erythema annulare* or *marginatum*, or there may be blisters formed in a little circle, in *erythema iris*, or *herpes iris*. Still another form of erythema is *erythema nodosum*, where we have nodes or lumps formed, mainly on the outer or back surface of the forearms or on the front of the shins. These are somewhat elevated, very tender, and look much like abscesses forming, but they never break unless very badly managed.

All these forms of erythema are more or less associated with a rheumatic habit or condition of body, and very frequently there will be considerable joint pain with them. They are generally due to indiscretions of diet and to the effects of cold in checking the secretion of the skin.

The treatment is generally laxative and cooling. But little need be done locally; a little wash of bicarbonate of soda, or lead and opium, will often prove very grateful.

Lichen.—Three varieties of lichen are now recognized—*lichen simplex*, *lichen planus* and *ruber*, and *lichen scrofulosus*. Lichen simplex is very like papular eczema, and some writers make no distinction between them. It is an eruption of small, inflammatory, pointed papules, red and very itchy, located mainly on the extensor surfaces of the limbs, also on the body, mainly on the back.

In lichen planus the papules are much larger and are flat on the summit, which may even be slightly depressed in the centre. They are more of a pinkish

purple, with whitish top, and have great tendency to become grouped together, forming even quite large patches. These appear often first about the wrists, especially on the inner or flexor surface. The eruption is a very chronic one, although quite curable. *Lichen ruber* is a disease which has been described as existing mainly in Germany, but recent study shows it to be the same eruption as lichen planus, only much more aggravated.

Another condition is spoken of as a lichen, namely, *lichen pilaris*, more properly called *Keratosis pilaris*, because it is not at all an inflammatory disease, like the true lichen, but is simply an accumulation of epidermics around the orifices of the hair-follicles in certain situations. When examined closely, these are seen each to surround a hair. As a condition resulting from neglect, it may be frequently seen on the thighs and arms, and shows the necessity of proper and sufficient bathing to cause this epidermis, which thus accumulates, to be daily removed.

Nothing is known as regards the actual causation of lichen as far as regards diet, etc.; consequently little can be said for the lay reader as regards treatment. Lichen is not contagious.

The little rashes which sometimes appear very transiently upon nursing or teething children, belong, many of them, to the class lichen simplex; thus, lichen strophulus or strophulus, red gum or red gown, white gum, and tooth-rash are properly forms of lichen or of papular eczema. *Lichen tropicus*, miliaria, or prickly heat, is a very acute form of lichen simplex, coming out under the influence of much heat. There is very much burning and pricking with it; some writers claim that it is caused by blocking up

and inflammation of the sweat glands. The treatment should be very mild and soothing; ointments and irritating washes should be avoided. Thorough dusting of the skin with lycopodium or rice powder gives the most relief. The system should be cooled down. There need be no fear of "driving in" this eruption.

Epithelioma. (Skin Cancer.)—Epithelioma is a local disease of the skin causing ulceration and, in some instances, great destruction. It is often spoken of as "skin cancer," but it is doubtful as to any relationship between the two. True cancer causes death by general prostration, and the glands and other organs may be attacked later. Epithelioma remains a local disease, and if it destroys life it does so by its own extension, as for example when it causes the destruction of the eye and penetrates the brain.

Epithelioma generally appears upon the face, although no part is necessarily exempted. It will often come first as an insignificant nodule, or little lump, upon which a crust will form and be thoughtlessly picked off, again and again, until at last a deeply ulcerating surface may result. The surface beneath the scab generally bleeds very easily. A common situation is on the lower lip, especially in males, and smoking has much to do with its formation here.

An old name given to this, and also to lupus, next to be described, was *noli me tangere*, the Latin for "touch me not," thus giving a striking hint as to the danger of meddling with these growths. They should never be tampered with; they should not be touched, unless they are cured. A little patch or spot may remain, quite like a small wart on the nose, cheek, or lip, for many years, giving little, if any, annoyance.

It is finally picked more and more ; then some salve is applied to heal it ; then it is burned lightly, and, not healing, it is touched again more deeply. An open ulcer may finally result, which then progresses rapidly, even to the destruction of much surface.

Now, no salves, or washes, or slight cauterizations will cure these affairs, and only radical, thorough treatment should be undertaken. They should be excised, scraped out, or burned out, to the whole depth of the disease. When properly managed, these can often be perfectly cured, always, however, with the production of a scar proportioned to the size of the ulcer.

It is proper to add here a caution against those who advertise to cure cancers. It may be taken as a rule, that those who advertise to cure are ignorant or unprincipled, or both ; and the cases narrated are either purely fictitious (as has been often proven), or the disease removed was not a cancer, but some of the many diseases liable to attack the skin, for everything presented to "cancer doctors" is called a cancer. These cases result too seriously for intelligent persons to trust them to any but educated advice and treatment.

Rodent Ulcer is a term applied to certain forms of epithelioma, especially about the face.

Lupus. (Eating Tetter.)—Fortunately, this disease is uncommon in this country, compared to Paris and Vienna, and also does not present nearly the ravages there observed. First, it must be premised that many cases of *tubercular syphilis* much resemble lupus, and the two are frequently confounded. We must also state that lupus is entirely distinct from syphilis, and that the term *syphilitic lupus* is improper.

Two varieties of lupus are recognized—*Lupus erythematosus* and *lupus vulgaris*. Erythematous lupus is so called because it is very superficial, and sometimes appears as little more than a dark-red, well-defined spot of variable size, which persists for months or years, and gradually increases, often in spite of the best treatment. When showing its typical development, it appears as one or more reddish patches of various sizes, either shiny or covered with thin grayish or yellowish scales, which adhere tolerably firmly. The base is often seen to present numerous minute openings, which are the mouths of sebaceous glands.

Lupus vulgaris differs from the preceding variety in having tubercles or roundish masses of a pulpy, soft deposit, which may run together and cover large surfaces, and then the disease appears as an even, red surface, covered with white scales, quite firmly attached at one side. These masses of disease also have a very strong tendency to ulcerate, especially when interfered with; and then they become covered with scabs and crusts, with a raw surface beneath. This disease always leaves scars, even when the masses are absorbed with little, if any, ulceration.

Older writers speak of *lupus exedens*, where the disease caused great destruction, and to this the term *noli me tangere*, "touch me not," was applied. These cases are happily very rare here, and it is doubtful if some of them were not cases of epithelioma, as already described, or cases of tubercular or gummy syphilis, a late, tertiary form, sometimes causing much destruction.

Little is known as to the causes of lupus, except that it is reckoned as one of the *strumous* or *scrofulous* diseases. It is somewhat benefited and sometimes

cured by internal treatment ; but main reliance must be placed on proper local applications.

Scrofuloderma is a term which has been applied to lupus, but is now recognized to be distinct from it. The masses of diseased skin are dark-red, apt to be hard, a little raised above the surface, and covered with more or less adherent scaly crusts. It is much more amenable to treatment—as tonics, cod-liver oil, good diet, etc.—than is lupus, which often resists all treatment.

King's-evil is an old name given to scrofulous affections.

Pruritus. (Itching of the Skin.)—Pruritus simply means itching, and is used, of course, in connection with many diseases in which this is a feature. Thus, eczema is attended with great pruritus or itching, as are also certain other eruptions.

But in the present sense it is spoken of as a disease, for in many instances we have pruritus without any outward lesions or eruptions on the skin, except those caused by scratching. There is a peculiar itching of the skin, which seems to be so dependent upon the advent of cold weather, that it has received the name of *pruritus hiemalis*; in this country it has been called winter prurigo. It does not seem to depend upon the wearing of flannel, for it occurs in those whose skins are not thus irritated. The itching occurs mainly at night, and affects the back, the backs of the arms, thighs, and legs. The suffering may be very great from it.

Itching may also be confined to certain parts of the body, and become distressing beyond measure, and sometimes resist the most patient and thorough attempts at its removal.

In the main, however, itching is only a symptom, and the cause should be investigated with great care, for otherwise all treatment is very unsatisfactory. Thus, occasionally, a case of scabies or the itch will remain long unrecognized, and many futile attempts will be made to relieve the itching, which will be absolutely impossible until the parasite is reached and destroyed. Many patients with eczema will beg only for something to stop the itching, which cannot be accomplished until the disease is checked.

In cases where there is itching, the cause must always be searched for, and the case treated accordingly, instead of simply giving this or that local application to relieve the symptom of itching. Sometimes, even in the very best society, the pruritus is due to the presence of lice; sometimes even to bed-bugs; sometimes there is urticaria present, or some other skin disease; sometimes it is owing to the irritation of flannels.

In regard to the treatment of pruritus, or itching, considerable can be accomplished in the way of home management. In the first place, giving way to scratching provokes more itching, and really increases the difficulty; in the case of eczema it certainly prolongs the duration of the disease. Next, all irritating elements should be removed from itchy skin, thus woollen is irritating, and cannot be worn next to the skin when thus affected. Again, much bathing, and especially friction after it, can greatly aggravate the trouble.

In employing the local applications which may be suitable to the case, one may fail of relief from their imperfect use. If ointments are used, the under-clothing will often absorb a large portion of it; and if this

is changed daily or very frequently, the fresh garment removes it again and again. Whereas, if the material next the skin is allowed to become somewhat soaked with the medicament, it will not take up so much again, and consequently more will soak into the skin.

In using lotions, they should, as a rule, be allowed to dry into the skin before wiping off. To accomplish this over much of the body, care must be exercised not to catch cold, for many of the evils which are charged to an eruption being "driven in," are simply the results of a cold, contracted, possibly, while attending to local treatment; for it is established beyond doubt, as previously shown, that skin diseases cannot be "driven in."

From what has been said in regard to the causation of itching, it can be readily seen that no general directions can be given the lay reader for its treatment. In no branch of medicine is an accurate diagnosis so requisite for successful treatment as in skin diseases.

Popular remedies for itching, such as weak carbolic acid lotions, a few grains to the ounce, diluted vinegar or alcohol, bicarbonate of soda in solution, a teaspoonful or so to the pint, and the like, are all of more or less service.

Chloasma. (Moth; Liver Spots.)—This term is applied to an affection which shows itself principally upon the face and neck in the form of smooth, brownish patches of irregular size and shape, generally arranged almost exactly alike on both sides of the face. These spots are popularly known as *moth patches*, and various washes are advertised in every paper which will surely cure them. Most of these washes contain sugar of lead, or corrosive sublimate, both dangerous remedies to be used without care; and

as the composition and strength of these preparations are kept secret, it is an evidence that they are dangerous or useless. All these are at best but local in their action, and consequently temporary, inasmuch as the cause which produced the discoloration remains.

As explained in the chapter on anatomy, the pigment or coloring matter in these patches is located in the deepest layer of the outer or cellular layer of the skin.

Some writers have applied the name *chloasma* to *tinea versicolor*, already described (page 87); but it has no relation to this affection; it is not in any way caused by a parasitic growth. It is often associated with female difficulties.

Lentigo. (Freckles; *Ephelides*.)—These consist of small deposits of pigment or coloring matter in the deeper layer of the epidermis, where the coloration of the negro is situated. They differ from *chloasma* only in the size of the collections of color.

The removal of both *chloasma* and *lentigo* is difficult, and should not be attempted by the patient. The cosmetic washes which are advertised for this purpose are either useless, or contain ingredients which are often, if not generally, very dangerous.

Dermatitis. (Inflammation of the Skin.)—This signifies any artificial inflammation not properly belonging to other classes of disease. It may, of course, come from many causes. Thus, from heat, either from the sun or artificial, we have the various degrees of burns, and also from cold the different forms of frosting of the skin; both these have the medical name of *dermatitis calorica*. We shall not treat of these accidents, however, in this Primer.

The skin is also inflamed by various poisons, and

the lesions resulting are called *dermatitis venenata*, as from croton-oil, tartar emetic, arnica, poison-ivy, mustard, thapsia, etc. *Poison-ivy eruption* shows itself by burning and tingling of the skin, followed by redness, swelling, and multitudes of minute vesicles or water-blisters. Sometimes this will go on to a degree which is exceedingly distressing to the patient, and may persist for some time. Certain individuals have recurrences with each exposure, and some are even affected by passing through a country where the ivy abounds, especially during its flowering season. Poisoning may also occur even in the winter, from dried portions of the plant being gathered with evergreens.

The *poison-ivy* vine, *rhus toxicodendron*, resembles very closely the ordinary woodbine, climbing in much the same manner over walls and trees. It may be readily distinguished, however, by ever bearing in mind the very simple rule that the harmless woodbine has *five* leaves on each stem (children can remember that it has five fingers like themselves), while the *poison-vine* has but *three* leaves on each stem.

The *poison-oak*, known also as *poison-sumach*, *swamp sumach*, *dogwood*, and *poison elder*, is to be distinguished from the ordinary sumach of the uplands, which is quite harmless; though, if one is susceptible to the poison, it is safer to avoid both in order to be sure. There is no simple rule to distinguish them, such as that just given for the poison-ivy. The poison-sumach is a plant six to eighteen feet high; the leaves are dark green, pointed, shiny and smooth on the edges, that is, not notched; they are arranged in pairs of four to six on opposite sides of a middle stem, with one at the end (the harmless sumach has many more leaflets on each side). The flowers are very

small and greenish, and the berries greenish white or yellowish; the berries of the harmless variety are always of a crimson red. The young shoots are purple or green clouded with purple, and marked by orange colored dots which turn grayish.

The indications for treatment of all forms of dermatitis are of such measures as will soothe the inflamed skin. Powdered starch gives great relief; alum-curd is a popular remedy of service, also washes of bicarbonate of soda, two or three teaspoonfuls to the pint of water. Astringents are called for after some of the acute symptoms have passed, and a tea made of white-oak bark is of value.

Furunculosis. (Boils.)—These are well known to all, and need no description; the state of system in which they develop is known medically as *furunculosis*. A boil is an inflammation of a certain definite portion of the skin, which tends to run a definite course and to end in the destruction or death of a central point, or *core*, with pus surrounding it: when these escape or are removed, the little abscess tends to heal. If, however, the lowered state of health which caused the boil remains, others will develop, and the disease may thus last a long time.

It is a very common impression that boils are salutary, and one constantly hears the remark, which was made only yesterday to the writer by a very intelligent lady, "Is n't it better for all that matter to come out, that is, for all that impurity to get out of the system?"

Now this is all entirely false, and rests on a wrong idea or knowledge of the actual facts. The system being debilitated in some manner (it may be from close air, overwork, nervous prostration, dyspepsia,

constipation, etc.), the tissue of the skin inflames at one and another point from local causes, and the boil develops in that place. The pus or matter which is formed and cast off did not exist in the blood, nor is it formed from impurities in the blood, but is the *result of the inflammation*. No one would pretend to say that it was salutary because, after an amputation, the wound did not heal but gave off quantities of pus or matter; and yet this pus or matter is exactly the same as that in a boil. No; the wound does not unite and heal because the system is in a poor or debilitated condition, and the boils form and discharge because something is wrong in the person's general health. And, further, as the continued discharge from a wound does not improve the sufferer's health, but lowers it still more, so boils not only are not salutary, but are precisely the reverse, and their production should be stopped as soon as possible.

A word in regard to their local treatment, for, if they are persistent, medical advice should govern internal measures which are of the greatest service. It is very common to apply soap and sugar to "draw" boils. Now this is painful and unpleasant, and, according to best authority, harmful. Repeated hot poultices of flaxseed meal will accomplish all that is possible in the direction of hastening the process which aids in the formation and casting off of the core and the pus or matter. After the boil is opened, naturally or with the knife, a little mild ointment, as that of the oxide of zinc thirty grains, carbolic acid five grains, and cold cream one ounce, is the best application.

The popular term "*blind boils*" refers to such as do not come to a pointed head, or are very slow in devel-

oping; the terms "cat-boils," "blood-boils," and "push-boils" have no scientific meaning, and are variously applied.

A *sty* on the eye (called, medically, *Hordeolum*) is of the same nature as a boil, and frequently accompanies attacks of boils, and also acne. It is an inflammation in and around one or more of the *meibomian glands* of the eyelid, which are modified sebaceous glands, giving out a fatty secretion. They should also be taken as an evidence of ill health, and never be considered as salutary or beneficial.

A *carbuncle*, or *anthrax*, is also of the same nature as a boil, except that the area of skin involved is much larger and there are several openings; also, for this reason, there is a very much larger core or slough. A carbuncle most commonly occurs on the back of the neck, and, especially in old people, is a most dangerous affection. Whenever they appear, the physician should be called in at once.

Ecthyma is an old medical term still somewhat used to designate a more superficial inflammation of the skin, in separate pustules of some size, on a hard base. These disappear without the formation of a core, and, consequently, without a scar. Much of what was formerly called *ecthyma* is now placed under the diseases in which these pustules form. Thus, we have what might be called *ecthyma* in some cases of scabies, also in syphilis, sometimes solely from the scratching which results from the presence of lice, etc.

Rupia is also an old medical term, now of doubtful meaning. It refers to a crusted eruption, the crusts being thick, and heaped up like the layers of an oyster-shell. It most commonly answers to some of the eruptions of syphilis.

Impetigo is a term to signify still smaller pustules, such as are now more commonly recognized as a part of eczema. This variety, where there are pustules, as in the scalp, and where crusts form, as about the nose and mouth in children, is called *eczema pustulosum* or *eczema impetiginosum*. Where there are only pustules, the eruption might properly be called impetigo.

Impetigo contagiosa is a variety of this eruption where the pustules are small and flat, spreading rapidly over the body, generally from above downwards. These cases are generally seen in groups, as in families and among children, and are thought to be contagious.

Sycosis is a pustular inflammation of the bearded face, in which each little pustule is seen to be penetrated by a hair. This is to be distinguished from what is sometimes known as *parasitic sycosis*, or *barber's itch*, the ringworm of the bearded face, already described as *tinea trichophytina barbæ* (page 85). True sycosis, as first mentioned, is an inflammation of the hair-follicles, and is not contagious. It begins deeply, and there is always a deep stinging or burning before the pustule appears on the surface. Eczema of the beard may resemble it closely.

Malignant Pustule.—This is an affection very rarely seen in this country, and is one which is communicated from animals to man. It is the "*charbon*" of the French. It consists of very painful, boil-like inflammations of the skin, which run a pretty acute course, sometimes causing great destruction of skin, and may prove rapidly fatal. Somewhat the same disease is acquired by butchers when the hands are wounded, and become poisoned from ordinary meat. Also, physicians not infrequently become very severely

poisoned in making examinations and dissections of the human body, and every one is more or less subject to have *poisoned wounds*. They should always receive prompt medical attention.

Leucoderma. (Piebald Skin.)—This is not a very uncommon affection, and cases of it are frequently exhibited in the museums, under the name “spotted man,” or boy. Another medical name for it is *vittigo*, so called from the Latin *vitulus*, a calf, because of a supposed resemblance in the spotting of the skin.

It is easy of recognition by the presence of one or many spots of skin, which appear to be blanched white, surrounded by skin of a darker color than natural. The border of the dark portion, next to the white spot, is very sharply defined and of the darkest hue, while it gradually fades into the color of the rest of the skin at a short distance from it. Frequently, these discolored spots are very symmetrically arranged on each side of the body, face, or extremities.

The disease occurs on negroes, and sometimes gives a very startling appearance. Such persons are known as *piebald* or *pied negroes*.

Sometimes the pigmentary matter is entirely absent from the skin, and we have what is known as *albinismus*. A person thus affected is called, popularly, an “*albino*,” plural *albinos*, from the Latin *albus*, white. In them we have a milky-white skin, with silvery-white hair and pink eyes, from the absence of coloring-matter even in the eye. These individuals are not very uncommon among some of the dark races, and an albino will often have brothers and sisters who are of the deepest hue. No explanation can be given of these anomalies. Very little, also, is understood as to the causation of the irregular deposits of pigment

in leucoderma or vitiligo. There can be little doubt, however, that they are under the control of the nervous system.

Ichthyosis. (Fish-skin disease.)—This is so named because in it the skin is hard and dry, and its surface marked off into more or less regular scales. The resemblance to fish-scales is more fancied than real.

Milder forms of this affection are known as *xeroderma*,—dry or parched skin,—although this term applies more strikingly to the more severe cases. Patients with ichthyosis seldom perspire, and the skin may be so dry and harsh as to crack and cause great pain.

The difference between cases of ichthyosis is so great that one would hardly see the propriety of giving the same name to instances which may appear. Thus, sometimes, we have only one or many small patches of what appear to be brownish, warty growths, often arranged in streaks or lines; or, again, this warty condition may be very general (“porcupine men”).

Ichthyosis is generally regarded as a congenital disease, although it sometimes develops even years after birth; or a very slight tendency to it may develop into a severe form. It is wellnigh incurable, although much may be done to ameliorate the condition of the patient by warm alkaline baths and emollients, and this, together with careful attention to health, will undoubtedly prevent many cases from excessive development, and cure a certain, though very small, percentage of cases.

The disease is, of course, not contagious, and, though born with it, the sufferer cannot charge evil upon his ancestors, for, as far as is known, it is totally disconnected with any state or disease in the parent.

Pemphigus. (Water Blebs.)—This is characterized by the formation of large water-blisters, of size varying from a large pea to half an egg or larger. There is no rule in regard to their location, for we may have them anywhere. Sometimes this eruption is acute and of short duration, but in most cases the eruption is prolonged, sometimes even for many years, by the fresh production of blisters. Pemphigus is one of the few diseases of the skin which may prove fatal.

Fig. 13.



Pediculus corporis: Body-louse. Greatly magnified.

The treatment is of course purely medical. The blisters should not be ruptured, though the water may be let out of them, as the skin over them makes the best covering for the raw surface beneath.

Phthiriasis (Lousiness) and **Scabies** (The itch).—These two diseases comprise the group of animal parasitic affections, and although they are rare among the better classes in this country, they may be and are found occasionally even in the best society.

Phthiriasis or pediculosis is the medical name given to the state of lousiness, or the presence of lice and the eruption which they produce. There are three varieties of lousiness recognized which are produced by these varieties of the louse; namely, *phthiriasis corporis*, *phthiriasis capitis*, and *phthiriasis pubis*. The body-louse (causing *phthiriasis corporis*) is the largest and the easiest to get rid of. (See Fig. 13.) They are rarely found on the body, but must be searched for in the folds of the under-clothing, especially where it presses, as

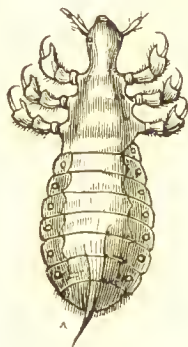
on the shoulders and hips. Here will also be found the *nits*, or eggs, which are small, white, oval specks, attached to the loose fibres of the garment.

In some instances body-lice are the cause of prolonged itching, which results in so much scratching that very troublesome sores may result, as we have repeatedly seen; and if the correct diagnosis is not made, and the pediculi removed, no progress will be made towards cure.

Happily, the treatment of phthiriasis of the body is very simple and effective, and is embraced in the word *cleanliness*. Complete changing of under-clothing, bed linen, etc., together with warm baths, are all that are required; *except* that, in order that the nits on the clothing should not hatch out, the garments should be baked or boiled each time for some weeks. Occasionally the outer clothing may contain them.

Phthiriasis capitis (lousiness of the scalp) sometimes results in a very considerable eruption of raw, exuding surfaces, covered with crusts, which may mat the hair together. The seat of this is very commonly at the lower and back part of the scalp, beneath the mass of hair there, especially in girls. Among the better classes, however, there is generally but little real eruption except a few scratched points. Not at all infrequently we will be utterly unable to find a single louse upon the head, so carefully have they been removed by careful combing and washing. But the *nits*, or eggs, are quite as charac-

Fig. 14.



Pediculus capitis: Louse of the head. Greatly magnified.

teristic, and are just as surely indicative of the state as though the insects were themselves found; for they can and certainly will hatch out, and the scalp free from pediculi to-day may have many there to-morrow. These nits are well shown in Fig. 15. It is useless

Fig. 15.



Nits or eggs of the *Pediculus Capitis*, or Head-Louse, attached to hairs. Greatly magnified.

to try to remove these by combing, for they adhere very firmly to the hairs, and can only be removed when they are dead. It, however, is quite unnecessary to cut the hair in order to get rid of them, for after thorough treatment they usually come off quite readily.

The common treatment practised by the writer in the Dispensary, is the thorough soaking of the hair with the ordinary kerosene oil for twenty-four hours, fresh oil being added three times during that period; the head in the meanwhile is to be bound up to keep in the volatile gases, which thereby penetrate the nits. At the end of twenty-four hours the scalp is thoroughly washed with soap and water, and most of the eruption will have disappeared, the lice will all be dead, also the nits. The covering which has been worn on the head should also be treated by baking in the oven on a board.

This is by far the most rapid and sure way of get-

ting rid of these pests; but some may object to it, although the writer has used it in private practice. A weak tea of the *stavesacre* seeds, made with half a pint each of vinegar or alcohol and water to half an ounce of the bruised seeds, is very effectual, and quite safe. Lotions of carbolic acid and corrosive sublimate are used medically, but are hardly safe for general use.

Care must be taken to remove completely all the pediculi and their nits, or new ones will hatch out, and thus the state be prolonged indefinitely.

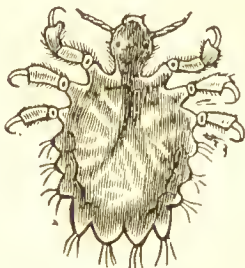
Phthiriasis pubis is the name given to the condition excited by the third variety of louse, shown in Fig. 16, commonly known as *crab louse*, or "*crabs*." It infests the hairs of the covered portions of the body, though it has been seen in the whiskers, eyelashes, and eyebrows. It clings closely to the hair where it comes out of the skin, and appears often as a little scab or crust, which will often be hard to remove, so tightly does the louse cling to the hair with his crab-like claws.

The irritation caused by these animals is often very great, and the cause of the itching often goes long unrecognized.

Any of the mercurial ointments suffice to destroy this parasite, but there is danger of producing salivation, if they are used too freely.

The reproductive power of lice is very great; it is related that an experimenter placed two female lice on a black silk stocking, which was then worn day

Fig. 16.



Pediculus Pubis:
Crab-Louse.
Greatly magnified.

and night, and at the end of six days each had laid fifty eggs. It is estimated that two females in eight weeks may have a progeny of 10,000 lice. Another writer estimates that the second generation of a single louse may reach 2500, and a third generation 125,000 lice.

The itching of many skin diseases is such that patients often insist that there are insects crawling *beneath* the skin. It is hardly necessary to say here that these, being air-breathing animals, always come from without, and cannot either penetrate beneath the skin or be generated there; although it is often difficult to persuade patients of this, and extravagant stories are in print in old books in regard to the development of lice beneath the skin.

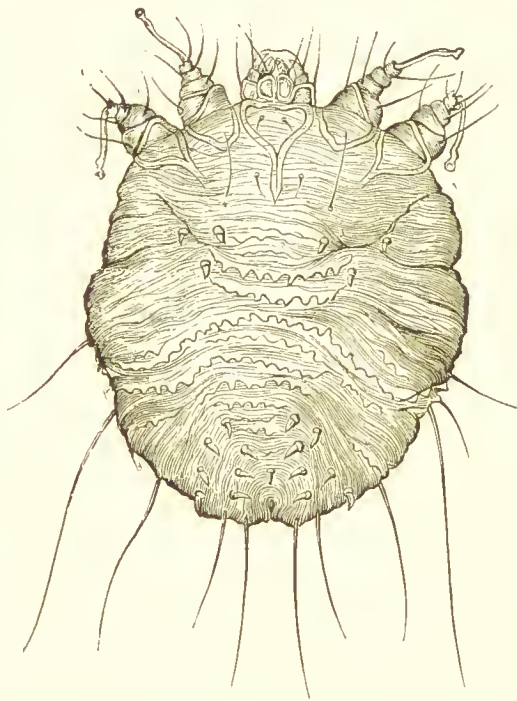
There is only one disease of the skin in which animal parasites are thus found beneath the surface, and that is next to be described.

Scabies.—This disease, which is popularly known as "*the itch*," is unfortunately by no means uncommon in some parts of Great Britain. In statistics from Glasgow, it formed more than one-quarter of 10,000 patients with skin disease.

Scabies is always acquired by contagion, and for this reason cases seldom appear alone; others associated with the patient will very likely be affected. It is always caused by the presence on and under the skin of a minute animal parasite, the *acarus*, or *sarcoptes scabiei*, represented well in Fig. 17. This insect is exceedingly minute, and is only just visible to the naked eye, appearing as a minute white speck if placed on a black background. The female causes the damage, as she bores into the skin to a slight distance, for the purpose of laying her eggs. She never

reaches below the deeper layer of the *epidermis*, but travels horizontally above the *papillæ*, depositing her eggs behind her. The track which she makes may often be observed as a small black curved line, some-

Fig. 17.

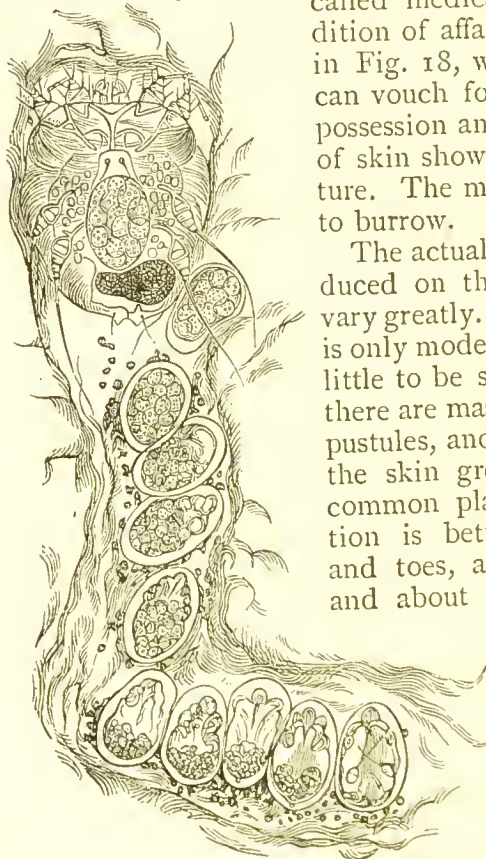


Female *Acarus Scabiei*, seen from its back.
Greatly magnified.

what dotted in character, and appearing about as if a bit of fine sewing-silk had been run beneath the skin for a distance of quarter of an inch or so. The eggs

are deposited in this, and the female dies in the burrow, or *cuniculus*, as it is called medically. This condition of affairs is well shown in Fig. 18, which the writer can vouch for, having in his possession an excised portion of skin showing just this picture. The male is not known to burrow.

Fig. 18.



Acarus burrowing beneath the skin and depositing eggs behind her. Those nearest to her are imperfectly developed; those nearest the opening are almost hatched out. Taken from a section of the skin. Greatly magnified.

The actual appearances produced on the skin in scabies vary greatly. Sometimes there is only moderate itching, with little to be seen. Sometimes there are masses of papules, or pustules, and the sufferer tears the skin greatly. The most common place for the eruption is between the fingers and toes, also on the wrists and about the soft parts of the feet, especially in children.

The cure of scabies consists in the destruction of the insects whose presence in the skin causes the irritation. Internal medication, therefore, cannot remove the disease, though it

may be required, in particular patients, to restore the lowered health which makes this disease possible. The main reliance is on the external use of sulphur, principally in the form of an ointment. Sometimes this itself causes much irritation; and the management of the disease should always be conducted with care.

Bromidrosis, or *osmidrosis*, is the name given to rank or fetid perspiration. Sometimes it has been known to stain clothing of different colors; it is then called *chromidrosis*. *Dysidrosis* is a term which has been applied to the retention of sweat, so that it forms minute, clear vesicles or water-blisters, especially on the fingers and face. Instances have been recorded where there was *bloody-sweat*, to which the name *hæmatidrosis* has been applied. *Hyperidrosis* indicates the state of great activity of the sweat glands, especially of some particular part, as when the hands or feet are damp and soggy.

The cause of all these unnatural states is undoubtedly debility, and should receive medical attention. Very much can be accomplished by local means, which cannot be here detailed. A safe home remedy of considerable service is a tea of white-oak bark, applied freely to the sweaty parts. The fetid sweat of the feet or arm-pits can almost always be cured by a wash of an ounce of hydrate of chloral to a pint of water.

Callositas.—*Callosities*, or hardening and thickening of the skin of various parts, sometimes become so annoying as to call for medical interference. Sometimes the feet will have a very thick coating of epidermis on the soles, which cracks and is very distressing. A piece of oiled silk, cut to lap a little over the

sides of the foot and worn day and night, gives great relief.

Clavus.—*Clavi*, or *corns*, are small growths of the outer or horny layer of the skin, which give pain by pressure upon the soft parts beneath; they may be said to be always due to tight or improperly fitting shoes. The true remedy is, therefore, to have a proper shoe. Much may be done both to prevent their appearance and to ease them when present, and to assist in their removal by having several pairs of shoes, and wearing them alternate days. Each presses a little differently, and so diminishes the chance of injuring the particular part.

Most of the corn remedies contain substances which soften the epidermis, such as potash, acetic acid, etc., in combination with various resins and pitch. They are good in their way, though incapable of curing the trouble, if the same cause, a bad shoe, is persisted in. Nor can permanent results be obtained or expected from operations by “chiropodists.” They remove the offending mass mechanically, but it will regrow unless the foot covering be changed. Soft corns may be greatly benefited by daily washings with soap and water, and the occasional use of spirits of camphor to harden the skin, together with the wearing of a bit of cotton wool between the toes.

Elephantiasis.—Two distinct diseases have been described with this name, known as *Elephantiasis Græcorum*, or true leprosy, now known as *lepra*, and *Elephantiasis Arabum*, which has no connection with leprosy.

Leprosy is exceedingly rare in this country. Marked cases show a curious thickening over the eyebrows, nose, and ears, formed of the tubercles or masses

of the disease, which also invades other parts of the body. Leprosy is *not* thought to be contagious, but is decidedly hereditary; it is developed in those who have lived in certain countries where it is common. Even a short stay in these places may be sufficient to acquire the disease. Cases have been known in which the disease developed in this country, the patients never having been in the lands where the disease commonly exists. The writer has had two such cases under his care who had never been more than three hundred miles away from New York.

Elephantiasis Arabum, elephant leg, or Barbadoes leg, is a chronic enlargement of a portion of the body, generally one leg, whereby the member becomes greatly thickened and proportionately clumsy. This may increase to such a degree as to render life a burden. The skin, which is the seat of the main thickening, may be smooth on the surface, or ulcerated. Sometimes there is considerable pain in the affected part. The genitals are attacked next in frequency to the legs, and the *hypertrophy* or enlargement may attain an enormous size, even of many pounds weight. Sometimes the nose in spirit-drinkers enlarges to an enormous size, and this is frequently called *elephantiasis nasi*, or more properly *rhinophyma*.

Equinia, glanders, or farcy is a disease which is contracted from the horse. It consists principally of inflammation of the nose, mouth, and throat, and also of the formation of pustules and ulcers on the skin. It is a very dangerous affection, and little is known as to its real nature or treatment. The cases in man are very rare.

Keloid.—This is a firm, fibrous growth in, or rather

upon, the skin, of a reddish color, and having finger-like prolongations running off into healthy skin. Sometimes this develops upon scars, as from burns; it is then called a *false keloid*. By many this has been regarded as a form of cancer, but it has no relation to that disease.

It is quite harmless, and as a rule should be let alone, for removal has almost always been followed by its return in the same place.

Molluscum.—This term is applied to small growths which appear on the skin, either solid and composed of fibrous tissue, when they take the name of *fibroma* or *molluscum fibrosum*, or they may consist of a sack or cavity, containing a semi-fluid substance, when they are called *molluscum sebaceum*, or *acne molluscum*. What are known as *wens* on the head are of this latter sort, and are overgrown or hypertrophied *sebaceous* or *oil glands*.

These tumors should be removed with the knife if their presence is sufficiently annoying.

Morphœa, Scleroderma, and Sclerema are terms applied to affections characterized by the occurrence of hard portions of skin, which have a *hide-bound* appearance. The tissue cannot be pinched up, and the surface may contract so as to give great distress.

Nævus.—Nævi are of several kinds. First, we have the small (or large) brown spots, often on the face, constituting *nævus pigmentosus*, or *mole*. If these grow hair, we have a second variety, *nævus pilosus*; instances of both these may be met with daily, especially in elderly persons. They should really not be interfered with, unless too unsightly, when surgical or other aid may be called in; but it is utterly useless

to attempt their removal by means of washes, salves, etc., they are too deeply seated to be thus reached.

The third variety of nævus is what is known as nævus vasculosus, telangiectasis, or vascular nævus, because it is made up of enlarged blood-vessels. It may be a mass of larger vessels, and form a tumor or swelling of a round or oval shape and of varying size and height, or it may be composed only of the smaller *capillaries*, and be level with the surface. This latter form constitutes what is known as *port-wine mark* or *claret-stain*, and is the deformity more commonly called a *mother's-mark* or *birth-mark*; although the latter name is often applied to the pigmentary and hairy nævi.

Very ridiculous ideas are prevalent relative to the causes of these marks, of which we know nothing. It is often very gravely asserted that the mother, during her pregnancy, spilled some claret, or perhaps stained her face with a raspberry, etc., and that the child bore the mark in the same place; or, with reference to the dark moles, they will assert that, while bearing the child, they were startled by a mouse, etc., and that the mark is a consequence. Such stories belong to a past age, and are only mentioned here to deny absolutely their truth, because they are still current, even among those of some education.

There is also a popular prejudice against removing any of these *birth-marks* or *mother's-marks*, even though their presence in some instances may render the bearer hideous. There can be, of course, no objection to removing them; but this is, unfortunately, attended with some difficulty. It may be done, however, in several ways, though some scar must, necessarily, be left. It is, of course, perfectly useless to attempt to

accomplish this by any washes or salves; it can only be done by the physician or surgeon.

Onychia and **Perionychia** refer to inflammation in and around the nail, and may be due to a number of causes. Sometimes the vegetable spores of the parasitic diseases, ringworm and favus, get beneath the nails and cause them to be diseased.

Pityriasis.—This is a term which was formerly much more used than at present. It refers to a scaly condition of the skin, and is now applied to two affections only,—one, *pityriasis rubra* or *dermatitis exfoliativa*, a very rare disease, where the whole body is red and scaly; the other is a condition of the scalp where there is a continual shedding of fine bran-like scales, forming dandruff or dandruff, much the same as in seborrhœa and scaly eczema, already described.

Purpura. (The Purples.)—This disease, sometimes called *land-scurvy*, is characterized by the appearance of small spots or blotches, generally round, in the skin, at first of a bright-red color, which soon become of a darker hue, then fade in several days, passing through various shades, much as seen in a bruise. The eruption usually appears first on the legs, but may become very general, though it is seldom seen on the face. It is commonly prolonged by the development of new spots day by day, until checked by treatment.

Purpura hemorrhagica is the same affection, only in a much more severe form, in which there is escape of blood from the nose, mouth, bowels, etc.

Scorbutus, or *sea-scurvy*, is an allied disease, in which, besides the occurrence of the stains in the skin, which are larger and more irregular than in purpura, and more like bruises, we have a dryness of all

the skin, together with general symptoms of weakness, and a certain spongy condition of the gums, which bleed easily, etc.

The causes of purpura are but little known, but true scurvy is now recognized to be due to wrong diet, and that, especially, in the way of the absence of fresh vegetables and fruit, and may occur as well on land as on sea.

The term *scurvy* is continually applied by the commoner classes to all kinds of *scurfy* or *scaly* diseases, as eczema, psoriasis, etc. These, of course, have no connection with the real disease here described.

Roseola. (Rose-rash; False Measles.)—This rash often resembles true measles so considerably as to be mistaken for the latter. The characters on the skin are nearly the same, but the congestion of the eyes, the catarrhal symptoms, the cough, etc., are absent, and development of the eruption is not regular or as seen in measles. Sometimes the blotches in roseola will be in the form of rings, sometimes in minute dots.

Rötheln, or German measles, is a roseola which is epidemic.

Rubeola. (Measles.)—The eruption of measles is of a mottled character, consisting of patches of a dull-red or raspberry color, showing considerable tendency to assume the form of a crescent. There is always first a certain amount of general symptoms,—languor, backache, running from the nose, sneezing and cough, with congested eyes. After about four days of this, the eruption appears, first upon the forehead, then on the cheeks, neck, and so on down, until, by the end of the third or fourth day of the eruption, it has covered the body and is fading from the face. By the end of the fourth day from its completion, or eighth

from its appearance, all traces have gone except a moderate scaling. Until this process is thoroughly accomplished, the patient may communicate the disease to others, and there is also danger to the patient from exposure to cold.

As is well known, measles is a mild and usually not fatal disease. The main danger is from bronchitis or pneumonia (inflammation of the lungs). While there is not much medication needed, it is a mistake not to have measles always attended by a competent physician, for many patients in whom it has been neglected, suffer long afterwards from the effects of the disease.

There is undoubtedly danger from a sudden disappearance of the rash in measles, as it is often the first indication of internal congestion; those cases do best in whom the rash runs its most regular and perfect course.

Little can be said here in regard to treatment, as this should always be managed by the physician. The diet should be light and unstimulating; broths, milk, etc., and warm drinks should be given at first, until the eruption is fading. There is little doubt but that *inunction*, or greasing the surface, is of great benefit both in measles and scarlet-fever, and should generally be practised. It gives great comfort to the patient, reduces the fever, and diminishes the risk of communicating the disease to others. It is very readily done with cosmoline or with almond oil, or a piece of fat bacon may be soaked in water, to remove the salt, and then placed in the oven, and as soon as it begins to melt, rubbed well over the body; this may be repeated night and morning, or oftener. The patient should be secluded from others

who have never had the disease, for a week after the eruption has faded. Others of the family, except, perhaps, the nurse, who is constantly in the room, will not carry the disease.

Scarlatina. (Scarlet-fever.)—This justly-dreaded disease shows itself on the surface in the form of a fine, scarlet rash, not in patches or blotches, as in measles, but much more evenly spread over the skin. It should appear about the second day after the commencement of the fever, and commences as in measles, first upon the head and gradually spreads downward, covering the body and limbs in from one to four days, gradually fading in the same order and in about the same time. The scaling differs from that of measles in being in large scales, sometimes even to the extent of all the skin of the hand in a single piece.

The fever and general symptoms are much more severe in scarlet-fever than in measles, and the danger is from the intensity of the poison, which sometimes kills before the eruption makes its appearance. Convulsions are not uncommon. Cases vary greatly in intensity, and in many epidemics the type of the disease will be very light. The tongue always presents a very red appearance. The throat symptoms are a serious part in most cases.

Nothing can be said here in regard to treatment, for it is one of the most treacherous of diseases, and a physician should be instantly summoned and guard the case to the end. The danger by no means ends with the eruption; kidney disease frequently follows. Inunction should be practised as mentioned under measles.

Much care should be exercised against chilling the surface; the head should be kept cool; the feet warm;

the apartment should be quiet, darkened, and well ventilated; the diet should be light and cooling. The patient should always be put to bed on a suspicion of scarlet-fever, and, if the disease be at all severe, must remain in bed for at least three weeks, and not leave the room for a week or so afterwards. It will then be very necessary to avoid draughts and cold rooms, as kidney disease may be thus very easily developed.

Patients who have had scarlet-fever should not mingle with those who have not had the disease, until it is pronounced safe to do so by the physician; they can communicate the contagion at all periods in the disease, but most so during desquamation (or peeling), and should be secluded for a month at least after convalescence.

Scarlet-fever can be spread, also, by other means than direct contagion. The room, and even the house, is not safe to enter until after fumigation; clothes, books, articles of furniture, etc., can convey the disease, and even those going much into the sick-room can be a means of carrying the poison; of this very striking instances are on record. Articles of clothing can be rendered harmless by being submitted to a heat equal to that of boiling water, and whatever can be fumigated in the room should be thus treated.

The following directions for fumigation come from an active Board of Health:—

“The windows and doors of the room and fire-place should be tightly closed. Everything that was in the room during sickness should be left in it. If the carpet was not removed when sickness commenced, it should be taken up and raised as far as possible from the floor, on chairs or in any other manner; one board of the floor should be taken up.

An iron kettle should then be placed on the floor, on bricks, and five pounds of sulphur placed therein, or one pound of sulphur for each thousand cubic feet to be fumigated; upon this two ounces of alcohol are poured and set on fire. Every one must withdraw from the room immediately, as the fumes are poisonous. The precautions taken with the carpet, and the removal of the board from the floor, allow the fumes of the burning sulphur to pass beneath the floor and between the walls, and to destroy any germs of disease which may be there. At the expiration of ten (10) hours, not before, the room may be opened. All the windows, doors, and the fireplace should remain open for twenty-four hours, that everything may be well aired."

Another important matter is the withdrawal of other children in the house from attending school or other public places, for the disease may be thus spread indefinitely. No one is surely safe until at least seven days after exposure to scarlet-fever. These rules in regard to danger and modes of communication of scarlatina, and the means of prevention, fumigation, etc., apply equally well to other contagious and infectious diseases, small-pox, diphtheria, etc.

There is an erroneous popular impression that there is a difference between scarlet-fever and scarlatina, the latter being supposed to be a mild form of the former: whereas the two names represent the one disease, one being Latin and the other English.

Vaccinia.—Vaccination is the communication to man in a slight degree of a disease which exists in cattle, and which is akin to small-pox. The idea originated in observing that those who contracted the disease on their hands, from milking cows affected with

it, escaped having ordinary small-pox. The announcement of this fact was made by Jenner in 1796, and what is to-day an established fact was introduced against the greatest opposition.

The eruption produced by vaccination is generally confined to the spots where the matter is inserted, but cases occasionally occur where numbers of other similar points develop; such rare cases are properly called vaccinia.

Vaccination may be performed in a number of ways, the object being to insert the matter beneath the hard, horny epidermis, which would otherwise hinder its absorption. The part may be punctured, scraped, or scratched, or a blister may be raised and the matter placed on the abraded surface, etc. If the inoculation does not take, the injured spot dries up in a few days.

If, however, the procedure has been successful, the scratches remain the same for the first two days, but by the third day a slight papular elevation is perceptible, which gradually increases in size until by the fifth or sixth day we have a distinct vesicle. It is now seen to contain a clear fluid and to be depressed in the centre. By the eighth day, that is, the day week after the vaccination, it has attained its perfection, is well developed and full of a clear liquid, which is the vaccine lymph, which may now be taken for further vaccination of others. Virus should seldom, if ever, be taken at a later date, and never when the vesicle has become yellow. Nor should this be done by any but a physician, for if improperly done serious evil may result.

A ring of mild, red inflammation is now developed around the vesicle, and the tissue around becomes somewhat hardened and swollen, a signal that infec-

tion of the system has taken place. The patient now feels more restless and irritable, possibly with fever and a little stomach or bowel derangement.

After the tenth day the redness begins to fade, the vesicle becomes yellowish and dries, and by the fourteenth day a scab is formed, which hardens and blackens, and falls in from three to four weeks from the date of the vaccination. The scar should be decided and permanent.

Much vaccination is done of late years by means of virus obtained directly from the calf. To get this, new calves are vaccinated each week or oftener, and the quills are charged directly from vesicles produced on them by many punctures. The progress of this form of vaccination on the human subject is more slow than that just detailed, each process of the formation of the papule, vesicle, etc., may be a few days delayed. The relative advantages of the natural cow- or calf-pox virus over that taken from the arm of a child are, the avoidance of the possibility of communicating other disease with the vaccination, and the abundant supply which can be maintained; whereas it is not always possible to get matter fresh from an infant whenever desired. Vaccination can be effected by grinding up the crust; but this is not so much practised now in places where fresh calf virus can be obtained. It is somewhat unreliable, and as the crust is made up of dried skin, and of vaccine matter which has already changed partly into pus, we get inoculation of other rather than pure vaccine matter.

The objections to animal vaccination are very few: sometimes very considerable inflammation is thus excited, and sometimes a series of boil-like inflammations will follow, both near the spot and elsewhere. There

is also some danger of a spurious vaccination, which would, of course, afford no protection against small-pox. This latter occurred once to a large scale in Paris some years ago, but now that the subject is better understood, and the production of the virus in reliable hands; there is little, if any, danger of such an accident.

Vaccination is rightly for the public interest made compulsory, for only thus can the foul disease small-pox be thoroughly stamped out. A successful vaccination often permanently protects against small-pox, certainly for a period of time; and as the dangers are now reduced to nothing, no valid reason can be urged against it. Revaccination should be resorted to whenever an epidemic breaks out within say six or seven years after the last successful vaccination.

In regard to the statistical showing of the results obtained from vaccination, we may quote the single one that the average death rate from small-pox in this country for the thirty years previous to vaccination was 3000 in the million, and that during the ten years from 1854 to 1863, during which vaccination was to a certain extent obligatory, this death rate from small-pox was reduced to the average of 171 per million, notwithstanding the occurrence of two severe epidemics of the disease during that period.

Vaccination should be thoroughly and carefully performed by competent physicians.

In regard to the popular ideas as to the conveyance of disease, etc., by vaccination, it may be said that there is only one disease which can be thus communicated, and that is syphilis. But the cases in which this has occurred are excessively rare, and in every instance are traceable to improper performance of the operation. Such a possibility being known, it may

safely be said that it *cannot* occur now, for the danger and the necessary precautions are known to every physician. Many suppose that eczema and many skin diseases can be thus given, but this is absolutely impossible. It is always possible, however, that in a person who is constitutionally predisposed to a skin disease the irritant effect of the vaccination may be the starting-point of the disease, as may occur from any other skin irritant, a burn, a blister, etc. In over 50,000 vaccinations by Mr. Marson, he had never seen other diseases communicated with the vaccine disease, and did not believe it possible to give them thus.

Vaccination should be performed generally before the third month; it is stated that one-quarter of all the deaths from small-pox, in England, occur in children under one year of age. It should be repeated *at least* every seven years, and much oftener in case of the presence of small-pox.

Varicella. (Chicken-pox; Water-pox.)—This is a mild disease, characterized by the appearance of a few or many small vesicles or water-blisters scattered over the body, new ones being produced several days in succession. The eruption has not the inflammatory character of small-pox, with which it is sometimes confounded; the little blisters appear suddenly, and do not pass through the stage of pimples as in the latter affection. The spots appear quite suddenly, and dry up in three or four days, and the scab generally falls by the end of a week from the first, often leaving scars.

Chicken-pox has but little of the fever or general symptoms shown in measles, scarlet-fever, and small-pox, and sometimes passes unrecognized until the disease has nearly run its course. It requires but

little treatment. It has no connection with small-pox.

Variola. (Small-pox.)—Happily, small-pox is becoming a rare disease in this country, and will become still less common when more perfect sanitary ideas prevail, and when vaccination is universal. The general symptoms in small-pox are usually very severe; it commences with a chill, languor, and lassitude, pains in the head and loins, sometimes vomiting, and even with convulsions. The skin is hot, the tongue dry and coated; all the symptoms being worse toward night.

After about two days an eruption of pimples appears on the face, especially about the lips and chin, and on the neck and wrists, spreading downwards over the body, reaching the feet in two or three days. After each point has lasted about twenty-four hours, it becomes a small vesicle or blister, and continues to enlarge until about the fifth day, when they are at their height, are slightly depressed in the centre, or *umbilicated*. They then become pustules, and by the twelfth day of the disease they begin to dry up, and by the end of from two to three weeks the crusts have fallen, leaving permanent scars.

Confluent small-pox is a severe form, in which the pustules run together, the fever is more severe, and the case more unpropitious.

Hemorrhagic or *Black Small-pox* is a terrible form, in which the system is prostrated by the poison even before the appearance of the eruption. There is bleeding from the mouth, nose, bowels, etc., the skin becomes of a purple hue, and death is the rule. These cases are often falsely called *black measles*.

Varioloid, or modified small-pox, is the form which

may come in those who have been vaccinated. It is generally a mild disease, though, if a long interval has passed since vaccination, it may prove severe, or even fatal.

Measles, scarlet-fever, chicken-pox, and small-pox occur each generally but once during life, but many instances are on record where repeated attacks have been witnessed.

Warts are small growths involving both the external or epidermal layer and the papillary layer of the corium or true skin; the hardness is due to great accumulation of the horny epithelial scales; while, if they are torn or cut on a level with the skin, we have bleeding, because the *papillæ*, in which are blood-vessels, project up into them.

Little or nothing is known as to the cause of warts; there exists no medical reason to favor the idea of their contagiousness, they being only outgrowths of skin. There is probably no truth at all in the popular opinion that they are caught from toads.

Their removal may be accomplished in several ways; sometimes they all vanish spontaneously, as by magic, in a very short time. They may be burned with nitric acid or caustic potash; a more slow removal may be effected with daily touching with dilute acetic acid, or equal parts of dilute muriatic acid and tincture of iron. They may also be taken out mechanically by means of a small steel instrument like a sharp-edged spoon. The writer has seen many disappear after a single one was thus removed. Arsenic internally has also very considerable power over warts. The medical name for a wart is *Verruca*: several different varieties are recognized.



CHAPTER IV.

DIET AND HYGIENE IN DISEASES OF THE SKIN.

THE question is continually asked the physician whether it makes any difference what the patient eats or drinks who is affected with this or that skin disease, and the opinions given are often as numerous as the physicians giving them, and are not infrequently quite contradictory. Many are based on theory, many on popular opinion, which has sanctioned this and decried that article of food or drink, and patients are often at a loss to know what to do. It cannot be doubted that what is eaten and drunk can and does affect both skin and other diseases; and while we are not yet in a position to determine with perfect accuracy all that might be desired, the writer will endeavor to make the subject as clear as possible from practical experience.

Dieting, to the popular mind, represents a starvation process, which is to be continued for a longer or shorter time, with the view, as it were, of starving out a disease. The definition of the verb diet, in Webster's Dictionary, is "to eat and drink sparingly, or by a prescribed rule." In the present connection the word diet has a broader meaning, and signifies *such a regulation of the quantity and quality of the food and drink taken, its mode of preparation, and time and method of consumption, as shall conduce to*

the restoration and maintenance of health. Diet is, of course, of varying importance in the different affections of the skin, and some might claim that in purely local ones, as ringworm, it was of no consequence. But all disease indicates debility, and even those depending on local causes may demand constitutional, dietetic, and hygienic treatment, even as moss will not grow on the back of a perfectly healthy tree in rich soil and with plenty of sunlight. In some diseases, as, for instance, nettle-rash, diet is all important, for the very article that produced it, as strawberries, etc., may be indulged in, and render the disease incurable.

Certain chronic skin diseases also depend upon erroneous eating in many ways, as will be mentioned later.

Beginning with eczema, or salt-rheum, the most common of all skin diseases, I will first call attention to the errors in diet which I constantly observe in those suffering from it during infant life. In infants at the breast too frequent feeding is, I believe, a frequent source of this and other diseases. Especially is it common for the mother to give the child the breast every time it cries, or is restless with the itching, and this generally but aggravates the already existing digestive disorder. The time of feeding should be regulated, and the breast not given oftener than every two hours or longer. But, again, the times of feeding may be correct, and the error be in the quality of milk from a faulty diet in the mother. In my inquiries, I have very generally found that mothers with eczematous children at the breast are in the habit of taking daily a larger or smaller amount of ale, beer, porter, or wine, or else a large quantity of

tea. Dyspepsia in the mother will very often cause eczema in her nursing child. Sometimes the milk is too poor, and the mother needs attention, and the mother and child may both require the addition of cod-liver oil.

When the child with eczema passes beyond the nourishment of the breast, great care is required that its diet be correct. I need hardly allude to the impropriety of giving young children "a little of all that's going," as I see daily done among the poor, and sometimes even among the educated classes. I have often seen children at the breast fed from the table with the food of adults; especially do they often get a little tea and coffee, of which children are universally fond. These should, of course, be interdicted, and they should be encouraged to use milk freely.

It is an error in the diet of these little patients with eczema to overload the stomach with pure starch compounds, as rice, farina, etc. It is better to give them such foods as thoroughly cooked wheat, oatmeal, etc. In some cases, however, oatmeal does not seem to be well borne by patients with skin diseases; there is some truth in the popular idea that "oatmeal is heating."

Most eczema patients, both children and adults, avoid or dislike fat; and this is an error which requires attention. Cod-liver oil is constantly given with the best effect in this disease, and other oily matter is quite as beneficial. Patients with eczema, and with many other skin diseases, should take a reasonable quantity of fat at all times, such as the fat of beef and mutton, butter, etc., always, however, short of producing any derangement of the stomach or

biliousness. But the fat must not be taken in the way of fried things, crullers, fried oysters, etc. Here, the fat being burned into other substances, becomes positively injurious. In order properly to consume this extra quantity of fat, more exercise than usual in the open air is necessary.

The fermented liquors, ale, beer, wine, and cider, are very frequent causes of skin diseases and of their continuance, and must be avoided by those subject to them. I have repeatedly seen a return to their use followed by a relapse of the disease.

Urticaria, or nettle-rash, is one of the most difficult diseases in which to regulate the diet, for while most articles can be taken with impunity, some particular one, perhaps the least suspected, may be the cause of the trouble. The articles most commonly injurious are, shell-fish, also stale fish, mushrooms, bananas, strawberries, raspberries, and pineapples; but in obstinate cases other articles may be the cause.

It is a mistake, however, because in certain persons shellfish may cause this eruption, to think that shellfish and all other fish are to be avoided in all skin diseases. On the contrary, I very constantly prescribe them, and consider them beneficial in most diseases of the skin, as a substitute for meat, of which we as a people eat far too much.

Acne often gives very much trouble in regard to its proper dietary. The general principles of diet in this affection have been already mentioned, and little more can be said in regard to the special articles than has already been stated. The diet must be plain. I much prefer to have patients omit soup at dinner, because it always congests the face, and so increases the trouble. I also wish them to avoid desserts entirely,

because they are so often indigestible compounds of sweets and starch, both of which elements make acne worse; and, moreover, the dessert is often just so much more than should be taken after the real appetite is satisfied.

A healthy appetite and good common sense are undoubtedly the best guides in the matter of diet, but unfortunately every one does not possess one, much less both, of these; and the refinements of civilization add greatly to the temptation of over-eating and wrong-eating, as they do to many other temptations. Witness the very common remark, when a very tempting dessert is offered, "I have had enough to eat, but that looks very good; I will try a little;" and so the poor digestive organs are taxed just so much beyond their powers. Few persons distinguish between *taste* and *appetite*; they gratify their taste long after the appetite is satisfied.

The infant, when over-fed by the indulgence of the mother whenever it cries, rejects its milk by a natural process, and is saved much sickness thereby. The Chinese gourmand is said to take an emetic that he may again gratify the taste of eating. But the refinement of to-day rejects this latter method of getting rid of the burden, and takes the "dinner-pill," or the aperient mineral-water to carry off that which should never have entered the stomach. The result of this over-eating is that the organs of digestion are able to do their duty but in part; the mass of partly-digested food is hurried along; the blood absorbs the products of imperfect digestion; the organs cannot get rid of the waste matter already circulating in it. As a consequence, we have sick-headaches, "biliousness," and skin diseases. Medicine is taken, the

organs whipped into action; the surplus carried off; there is some relief; the organs rest from their extra work; the full diet is maintained; the system is again overloaded; and the process is repeated again and again.

Salted meats and salted fish are popularly supposed to act prejudicially in skin-diseases, and rightly so. They should be avoided in these affections; as also pickles, olives, rich salads, and the like; likewise stimulating sauces, pepper, etc. There is, however, no objection to acids in most skin affections, and a certain amount of vinegar is often beneficial. The only exception to this is, perhaps, in the case of nettle-rash.

A very great error is often made in the amount of liquid consumed during eating. This is especially true of large amounts of tea, which I have repeatedly seen to provoke skin diseases. There is no objection generally to the use of a small amount of coffee once daily, and tea once daily. But many persons consume very much water with the meals. This should be avoided, and as little as possible drank. Nor should a large amount, as a goblet full, be taken directly after eating; for the operation is the same, namely, to chill the stomach and arrest digestion. Water should be avoided as largely as possible until at least two hours after eating. Sometimes a cup of very hot water taken quarter to half an hour before meals will take away the craving for water, and greatly benefit any existing indigestion.

Much more could be said on this subject, but space forbids. Much the same rules which apply to ordinary good and healthy living are applicable to those affected with skin diseases. The avoidance of all

articles and ways which produce indigestion will assist in curing disease of the skin.

Rapid eating and imperfect chewing are very fertile causes of trouble, and should be attended to. The process of digestion begins in the mouth, and unless the food is properly chewed and mixed with saliva (which latter produces certain digestive changes in it), the other organs cannot do their work properly. For each organ has its own function, and takes up the process where the preceding organ left it off. The failure of one, therefore, necessitates a partial failure in the work of the others.

Hygiene embraces many things which can be only mentioned here as suggestive of thought. Exercise, rest, sleep, the care of the skin, as in bathing, the air we breathe, the sleeping apartment, the dryness of the living-room, sunlight, etc., are all points which may play more or less important parts in the production or continuance of diseases of the skin.

Sedentary habits are undoubtedly the cause of many of these affections, and unless they can be changed, permanent cure cannot be effected in many diseases.

Walking affords sufficient exercise if taken briskly, but the slow saunter is hardly capable of quickening the circulation enough to cause the proper blood changes to take place. The distance walked must vary, of course, with the patient; but from two to four miles daily is a small rather than large amount for the healthy person to average. Horseback-riding often assists greatly in the cure of skin disease; carriage-riding, even of quite long distances, does not give sufficient active exercise. The health-lift, rowing-apparatus, boating, etc., should all be encouraged in those with chronic skin diseases, for by far the

larger share of them are associated with a sluggish state of the system.

Over-work and too little sleep are also fruitful causes of many of the skin diseases with nervous elements, and should be regulated.

Neglect of bathing and friction to the skin, as mentioned previously (pages 31 and 34), can produce disease of this organ, although over-stimulation is also quite as bad in some cases.

A few words in regard to summer resorts and sea-air and bathing in diseases of the skin may not be unacceptable. Some skin diseases are certainly much worse in winter, as psoriasis, chronic eczema, and pruritus, while others are more apt to give annoyance in summer, as urticaria, acute eczema, prickly heat, etc.; as a rule, the more acute eruptions are made worse at the sea-shore, and the larger share of skin diseases are benefited by mountain air. Acne is almost invariably made much worse by sea-air and bathing; old eczema patients are often much benefited at the sea-shore; but if there is any raw surface, it is certainly aggravated by sea-bathing. Psoriasis is benefited by the sea, and warm sea-baths may even be taken in winter with advantage in this complaint.

Popular opinion favors greatly the mineral springs in cases of diseases of the skin, and they are resorted to indiscriminately by those suffering from them. There can be no doubt of their efficacy in certain skin cases, but they are not to be used rashly without a definite knowledge of what is to be accomplished; waters which may be beneficial in some eruptions are as surely harmful or inefficacious in others. Special advice should be sought from physicians familiar with the subject; to go to any health-resort unintelligently,

is like visiting a chemist's shop, because sick, without a definite prescription. In general, it may be said that their value is very greatly overrated.

Foul air, either in the sleeping-room, parlor, or office, is a matter which should never be neglected either in disease of the skin or of any other organ, or in health, for by lowering the vitality it undoubtedly invites much disease. Dampness of apartments may in the same way give trouble; and also too great dryness, as by furnace-heat without evaporating-water, can dry the skin too much and cause it to become diseased.

Sunlight is quite as necessary to health and life in the human being as it is in plants and flowers. All know that these will not flourish on the north side of a house, or if deprived of the actual rays of the sun, however light their surroundings may be. Just so, as an element of health of the skin and other organs, the God-given sunlight is essential to man, and the avoidance of it wilfully or carelessly is a cause of the occurrence and obstinacy of disease.

In conclusion, I may add that in chronic skin diseases the whole system is chronically deranged, and to accomplish their cure, and to prevent their return, it is frequently necessary to alter the condition of the system. To accomplish this, we cannot simply apply a wash or a salve, or take a few drops of this or that remedy, but must, by a combination of all the means known to science, by diet, hygiene, and medicine, restore the disordered organ and system to the state of health. And the application of the same rules, together with self-restraint, will serve to prevent a recurrence of the skin disease.



INDEX.

	PAGE		PAGE
ACARUS scabiei.....	115	Bathing.....	141
Achorion Schönleini.....	86	Baths in skin diseases.....	34, 142
Acne.....	66	Baths, Turkish.....	34
— arsenic in.....	70	Beard, great length of.....	27
— causes of.....	68, 69	Birth-mark.....	121
— diet in.....	137	Black measles.....	132
— frequency of.....	66	— small-pox.....	132
— nature of.....	19, 22	Blind boils.....	105
— sebacea.....	60	Blood in skin diseases.....	46, 47
— treatment of.....	69	Blood-boils.....	106
— washes in.....	70	Blood-vessels of skin.....	13
Action of soap on healthy and		Bloody-sweat.....	117
diseased skin.....	42	Body-louse.....	110
Acute eczema.....	57	Boils.....	104
Addison's disease.....	54	Bricklayer's itch.....	61
Advertised remedies, dangers		Bromidrosis.....	117
from.....	25, 36, 39, 97, 101	Bubo.....	80
Albinismus.....	108	Bullæ, definition of the term.....	55
Albino.....	108	Burmese itch.....	84
Alopecia.....	72, 73		
— areata.....	74	CALLOSITAS.....	117
Anæsthesia cutis.....	52	Cancer doctors.....	97
Analysis of toilet soap.....	43	— of the skin.....	96
Angioma.....	54	Canities.....	54
Anidrosis.....	52	Capillaries of skin.....	13
Animal vaccination.....	129	Carbolic soap.....	40
Anthrax.....	106	Carbuncles.....	106
Anti-parasitic remedies.....	88	Carcinoma cutis.....	96
Appetite distinct from taste.....	138	Care of the skin in health.....	34
Application of ointments.....	64	Castile soap.....	41
Arnica a cause of eczema.....	62	Cat-boils.....	106
Arrectores pilorum.....	20	Catching cold.....	17
Arsenic in acne.....	70	Causes of skin diseases.....	46
Arteries of skin.....	13	Chafing in infants.....	59
Articles of diet.....	137	Chancre.....	80
Atrophia cutis.....	54	Chancroid.....	80
Avoidance of certain kinds of		Charbon.....	107
food in skin disease.....	137	Check of perspiration.....	17
		Cheiro-pompholix.....	53
BAKER'S itch.....	61	Chicken-pox.....	131
Baldness.....	72, 73	Chinese itch.....	84
Barbadoes leg.....	119	Chloasma.....	101
Barber's itch.....	84	Chromidrosis.....	117

	PAGE		PAGE
Chromophytosis.....	52	Dermatitis, eczema a.....	57
Chronic eczema.....	57	— exfoliativa.....	53
Cicatrix, cause of.....	11	Destruction of superfluous hairs.....	25
— definition of.....	56	Development of acne.....	66
Claret stain.....	121	Diameter of hair.....	28
Classification of skin diseases.....	51	Diapers, irritating, a cause of eczema.....	63
Clavus.....	118	Diet in eczema.....	64
Cleanliness, necessity of... 17, 34,	111	— in skin diseases.....	134
Clothing in itching.....	100	Diphtheritis cutis.....	53
— irritation of, in eczema.....	65	Diseased skin, action of soap on.....	42
Coating the skin, death from.....	17	Diseases of the skin.....	45
Coffee drinking.....	139	Downy hairs.....	23
Cold sores.....	90	"Driving in" of skin diseases.....	47, 101
Color of skin.....	12	Dry tetter.....	75
Comedo.....	67	Dye-stuffs a cause of eczema.....	62, 63
Confluent small-pox.....	132	Dysidrosis.....	117
Constipation in eczema.....	62	Dyspepsia a cause of skin disease.....	136
Contagiousness of skin diseases.....	46, 50	— with eczema.....	61
— of leprosy.....	119	EATING tetter.....	97
— of measles.....	124	Ecthyma.....	106
— of ringworm.....	84	Eczema.....	56
— of scarlet-fever.....	126	— causes of.....	56
— of syphilis.....	77	— constipation in.....	62
Conveyance of diseases by vaccination.....	130	— due to scratching.....	65
Convulsions in skin diseases.....	48	— dyspepsia in.....	61
Corium, or true skin.....	8	— marginatum.....	84
Corns.....	118	— not contagious.....	57
Cornu cutaneum.....	54	Effects, injurious, of medicated soap.....	41
Cosmetics, dangers from.....	70	Elasticity of hair.....	28
Crab-louse.....	113	Elephantiasis.....	76, 118
Crabs.....	113	Elephant leg.....	119
Croton oil a cause of eczema.....	62	Eggs or nits of pediculi.....	113
Crusta, definition of.....	56	Emunctory function of the skin.....	31
— lactea.....	58	Ephelides.....	102
Cuniculus.....	116	Epidermis.....	8, 10, 11
Cutaneous horn.....	54	Epithelioma.....	96
Cuticle, or epidermis.....	10	Equinia.....	119
Cutis vera, or true skin.....	8	Errors of diet.....	134 <i>et seq</i>
DAMPNESS of apartments.....	140	Eruption, definition of.....	48
Dandriff or dandruff.....	60, 71	— of infancy.....	48
Dangers of baths.....	35	Erysipelas.....	91, 93
— from advertised remedies.....	25, 36, 39, 97	Erythema.....	93
— from cold in applying lotions.....	101	— multiforme.....	94
Death from coating the skin.....	17	— nodosum.....	94
Definition of terms.....	55	— papulatum.....	94
— of the term eruption.....	48	Erythematous eczema.....	60
Demodex folliculorum.....	67, 68	— lupus.....	98
Depilatories.....	25	Exanthemata.....	50
Derma, or true skin.....	10	Exciting causes of eczema.....	62
Dermatalgia.....	52	Excoratio, definition of the term.....	56
Dermatitis.....	102		

	PAGE		PAGE
Excretory function of the skin...	31	Hemorrhagic small-pox.....	132
Exercise in diseases of the skin.	140	Hereditability of leprosy.....	118
Extracting hairs.....	24, 26	Hereditary transmission of syphilis.....	79, 80
FACE, powders for the.....	36	Herpes.....	88
False measles	123	— tonsurans.....	83
Farcy.....	119	Hirsuties	24
Fat wrongly avoided in skin diseases.....	136	Hives.....	92
Favus.....	83, 85, 86	Hordeolum.....	106
Feeding of infants.....	136	Hydroa.....	91
Fermented liquors bad in skin diseases.....	137	Hygiene in eczema.....	64
Fever-blisters.....	90	— in skin diseases.....	134, 140
Fibroma.....	54	Hyperæsthesia cutis.....	52
Fish-skin disease.....	109	Hyperidrosis.....	117
Fish wrongly avoided in skin diseases.....	137	Hypertrichosis.....	25
Fissura, definition of the term...	56	ICHTHYOSIS	109
Flesh-worms	19, 66, 67	Iguis sacer.....	8c
Frambæsia, or yaws.....	54	Impetiginous eczema.....	59
Freckles.....	102	Impetigo.....	107
Frequency of acne.....	66	— contagiosa.....	107
— of skin diseases.....	46	Infancy, eruptions of.....	48
Fumigation in scarlet-fever.....	126	Infantile eczema.....	57
Furrow of acarus.....	116	Infants, chafing in.....	59
Furunculosis	104	— food.....	136
GLANDERS.....	119	Injurious effects of cosmetics....	70
Glands of the skin.....	14	— effects of medicated soaps..	40
Goose-skin.....	21	Intertrigo.....	59
Grocer's itch.....	61	Inunction in measles and scarlet-fever.....	124
Growth of nails.....	29	Irritating diapers a cause of eczema.....	63
Gummy syphilis.....	98	Irritation of clothing in eczema..	65
Guttate psoriasis.....	75	Isolation in scarlet-fever.....	126
HÆMATIDROSIS	117	Itch.....	110, 115
Hair, diameter of.....	28	— baker's.....	61
— elasticity of.....	28	— barber's.....	84
— loss of.....	72	— bricklayer's.....	61
— muscles	21	— grocer's.....	61
— nutrition of.....	74	— sulphur soap in.....	40
— on the face.....	25	— washerwoman's.....	61
— papilla.....	24	Itching.....	100
— strength of.....	28	— due to parasites... 100, 111, 116	
Hairiness.....	24	— in eczema.....	62
Hairs.....	23	Ivy eruptions, poison.....	62, 103
— connected with sebaceous glands.....	18	KELOID.....	119
Hands, eczema of the.....	61	Keratosis pilaris.....	95
Head-louse.....	111	Kerion.....	84
Health, care of the skin in.....	34	Kerosene oil in phthiriasis.....	112
Healthy skin, action of soap on.	42	Kidney disease following scarlet-fever.....	125
Heat eruption.....	59, 95	King's-evil.....	99
		Kiss, syphilis given by.....	78

	PAGE		PAGE
LAND scurvy.....	122	Muscles of the skin.....	20
Lanugo.....	23	Mycelium.....	83
Legs, eczema of.....	61	NÆVUS.....	121
Length of hair.....	27	Nails.....	23
Lentigo.....	102	— growth of.....	29
Lepra.....	76, 118	— in sickness.....	29, 30
Leprosy.....	76, 118	— structure of.....	28
Lesions of skin.....	55	Nerves of skin.....	13
Leucoderma.....	108	Nettle-rash.....	92
Lice.....	111	Neuroma.....	54
Lichen.....	58, 61, 95	Nits of pediculus.....	111
— urticatus.....	92	Noli me tangere.....	96, 98
Liquid during eating, harm from taking.....	139	Number of hairs.....	26
Livedo.....	52	Nummular psoriasis.....	75
Liver spots.....	83, 101	Nutrition of hair.....	14
Local causes of eczema.....	62	OINTMENTS, method of applying.....	64
— remedies in skin diseases.....	47	Onychatrophia.....	54
— treatment of acne.....	70	Onychauxis.....	54
Lotions in itching.....	101	Onychia.....	122
— in phthiriasis.....	113	Onychogryphosis.....	54
Lousiness.....	110	Osmidrosis.....	117
Lupus.....	97	Over-feeding a cause of skin diseases.....	135, 138
— erythematosus.....	98	PANNICULUS adiposus.....	10
— exedens.....	98	Papilla of hair.....	24
— vulgaris.....	98	Papillæ of skin.....	10
Lymphadenoma.....	54	Papulæ, definition of.....	55
MACULÆ, definition of.....	55	Papular eczema.....	58
Malaria a cause of eczema.....	64	Parasitic diseases.....	82, 110
Malignant pustule.....	107	Pars papillaris.....	10
Marginate eczema.....	84	Pears's transparent soap.....	42
Measles.....	123	Pediculus capitis.....	111
Medicated soaps, injurious ef- fects of.....	40	— corporis.....	110
Meibomian glands affected in styes.....	106	— pubis.....	113
Melanoderma.....	54	Peliosis rheumatica.....	54
Melanosis.....	54	Pemphigus.....	110
Mercury in syphilis.....	82	Performance of vaccination.....	128
Method of applying ointments.....	64	Perionychia.....	122
Microsporon furfur.....	87	Perspiration.....	117
Milium.....	52	Phthiriasis.....	110
Milk-crust.....	58	Phyma, definition of.....	55
Mineral springs in skin diseases.....	141	Physiology of the skin.....	31
Moist tetter.....	56	Piebald skin.....	108
Mole.....	120	Pied negroes.....	108
Molluscum.....	120	Pimples.....	66
Morbus Addisonii.....	54	Pityriasis.....	122
Morphœa.....	120	— versicolor.....	83
Moth patches.....	101	Plica polonica.....	85
Mother's-mark.....	121	Plucking out hair.....	24
Movements of hairs.....	22	Pneumonia in skin diseases.....	48
Multiplication of lice.....	113	Poison-ivy.....	103

	PAGE		PAGE
Poison-oak.....	103	Scall.....	56
— sumach.....	103	Scalp, soap in eczema of the.....	44
Pompholix.....	53	Scarfskin, or epidermis.....	10, 11
Pomphus, definition of the term.....	55	Scarlet-fever and scarlatina.....	125, 127
Porcupine men.....	109	Scars, how produced.....	11
Pores of the skin.....	16	School, keeping children from,	
Porrijo.....	85	who have been exposed to con-	
Port-wine mark.....	121	tagious diseases.....	85, 127
Powders for the face.....	36	Sclerema.....	120
Preventive measures in eczema.....	64	Scleroderma.....	120
Prickly heat.....	95	Scratching, eczema due to.....	65
Progenital or preputial herpes.....	91	Scrofuloderma.....	99
Prognosis of eczema.....	66	Scurvy.....	122
— of syphilis.....	81	Sea-bathing in eczema.....	64, 141
Prurigo.....	53	Sea-shore in skin diseases.....	141
Pruritus.....	99	Seat of acne.....	66
— hiemalis.....	99	Sebaceous acne.....	71
Psoriasis.....	75	— glands.....	18
Purples.....	122	Sebiparous glands.....	18
Purpura.....	122	Seborrhœa.....	60, 71
Push-boils.....	106	Sebum.....	18
Pustula maligna.....	107	Secretion from the sweat glands.....	32
Pustulæ, definition of.....	55	Sedentary habits.....	140
Pustular eczema.....	59	Sense of touch.....	14
		Shaving, length of hair removed	
RACEMOSE glands.....	18	by.....	27
Rapid eating.....	140	Shingles.....	88
Red gown.....	59	Skin as an excretory organ.....	7
— gum.....	59	— cancer.....	96
Relapses in syphilis.....	81	— care of in health.....	34
Removal of birth-marks.....	121	— emunctory function of.....	31
— of superfluous hairs.....	25	— physiology of the.....	31
Rete mucosum or rete malpighii.....	11	— temperature of body regu-	
Rhinophyma.....	119	lated by the.....	32
Rhinoscleroma.....	54	— diseases, classification of.....	51
Rhus toxicodendron.....	103	— — contagiousness of.....	46
Ringworm.....	82	— — “driving in”.....	47
Rodent ulcer.....	97	— — frequency of.....	45
Root of hair.....	23	Small-pox.....	132
Roseola.....	123	Soap, action of, on healthy and	
Rose-rash.....	123	diseased skin.....	42
Rötheln.....	123	— analysis of.....	43
Rubber bandage in eczema.....	61	— Castile.....	41
Rubeola.....	123	— in eczema.....	64
Running tetter.....	56	— in skin diseases.....	37
Rupia.....	106	— medicated.....	39
SALT-RHEUM.....	56	Soothing soaps.....	41
Sapo viridis.....	37, 39	Squama, definition of.....	56
Sarcoma.....	54	Squeezing out pustules in acne.....	70
Sarcoptes scabiei.....	115	St. Anthony's fire.....	88, 91
Scabies.....	110, 114	Statistics of scabies.....	114
— a local disease.....	49	— of syphilis.....	77
— sulphur soap in.....	40	— of vaccination.....	130
		Stavesacre in phthiriasis.....	113

	PAGE		PAGE
Steatorrhœa.....	71	Tuberculum, definition of.....	55
Steatozoon folliculorum.....	68	Turkish baths.....	34
Strength of hair.....	28	Tylosis.....	54
Strophulus.....	59	ULCER, rodent.....	97
Sty.....	106	— of leg, rubber bandage in....	61
Subcutaneous cellular tissue.....	10	Ulcus, definition of.....	53, 56
Successful vaccination.....	128	Umbilication in small-pox.....	132
Sudamina.....	52	Urticaria.....	92
Sudoriparous gland.....	14	VACCINATION.....	127
Sulphurointment causing eczema	62	— communicating syphilis	78, 130
— soap.....	39	— disease.....	130
Sumach, poison.....	103	Varicella.....	131
Sunlight, necessity of, in skin		Varicose veins in eczema.....	61
diseases.....	142	Variola.....	132
Superfluous hair.....	25	Varioloid.....	132
Surgical erysipelas.....	91	Venereal disease.....	76
Sweat glands.....	14	Verruca.....	133
— secretion from the.....	32	Versicolor, tinea.....	83, 87
Sweating.....	117	Vesicles, how formed.....	11
Sycosis.....	107	Vesiculæ, definition of.....	55
— parasitica.....	85, 107	Vitiligo.....	108
Syphilis.....	76	Vitiligoidea.....	54
TACTILE corpuscles.....	14	WARTS.....	133
Tar soap.....	40	Washerwoman's itch.....	61
Taste and appetite different.....	138	Washing, injurious effects of, in	
Tea drinking.....	139	eczema.....	65
Telangiectasis.....	54	Water-blisters.....	88
Temperature of body regulated		Water drinking.....	139
by the skin.....	32	Water in eczema.....	64
Tetter, dry.....	75	Water-pox.....	131
— eating.....	97	Wens.....	71
— moist or running.....	56	Wheat.....	92
Thickening of skin in eczema....	62	Winter pruritus.....	99
Time of occurrence of acne.....	68	XANTHELASMA or xanthoma.....	54
Tinea.....	82	Xeroderma.....	19, 109
Toilet soap, analysis of.....	43	YAWS or framboesia.....	54
Tooth-rash.....	58	ZOSTER or zona.....	89
Touch, sense of.....	14		
Transmission of syphilis.....	78, 79		
Transparent soap, Pears's.....	42		
Trichophyton tonsurans.....	83		
Trichorexis nodosa.....	54		

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